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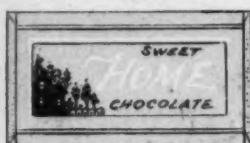
"The Public Is Turning to Quality"

... the low price habit is still with us, but the trend is toward higher standards"—says a leading chain store buyer.

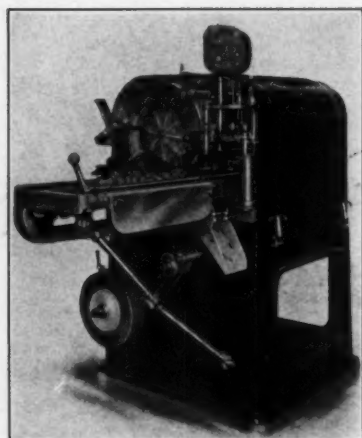
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Beware of producing confections below "the danger line" of public acceptance—lest they never come back for more at any price. These are times when the consumer is attracted by bigger values in form of better quality—price is not the ruling consideration in confections from the consumer's point of view.

The MANUFACTURING CONFECTIONER



HARD CANDY WRAPPING PROBLEMS



Unique Features
Machinery
for
Double
and
Single Fan Tail

**Compact, Tight and
Beautiful Wrapping**

with

PAPER OR CELLOPHANE

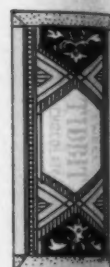
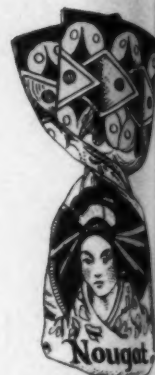
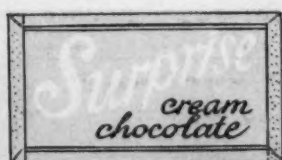
"ACMA"

MARIO TANZI & BROS., INC.

Automatic Wrapping and Filling Machinery

348 Commercial Street

Boston, Mass., U. S. A.



The MANUFACTURING CONFECTIONER

Vol. XI

AUGUST, 1931

No. 8

CONTENTS

EDITORIALS	20
If They See and Believe, They Will Buy	
We Want Some of Those Thirteen Cents	
Opportunity Knocks	
HEALTH CANDIES.....	Orville H. Kneen 22
FRUIT CANDIES—PART III—THE USE OF DRIED FRUITS IN CANDY	
.....	W. V. Cruess 25
THE CANDY MAN'S CALENDAR.....	29
"CERTIFIED".....	Horace Terhune Herrick 30
CORN SYRUP'S PLACE IN CANDY.....	John M. Krno 32
REPORT OF S. W. C. A. CONVENTION.....	37
MONTHLY DIGEST OF CURRENT TECHNICAL LITERATURE.....	38
THE CANDY CLINIC—HARD CANDIES AND SUMMER GOODS.....	42
"WHAT IS THE MATTER WITH THE CANDY BUSINESS?".....	
.....	Eric Lehman 46
SCRAP	48
AS WE SORT THE MAIL.....	49
PATENTS	51
BUYER'S GUIDE	5
CLASSIFIED ADVERTISING	64 65
INDEX TO ADVERTISERS	66

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ESSENTIAL OILS
and Kindred Products

Flavor of Quality

will sell your product when
the finest wrapper has
failed to attract the buyer.

D & O

"NECTAROMES" and "NECTARSYNTH"

*are Modern Type Fruit Flavors
imparting the luscious fresh fruit aromas*

APPLE

APRICOT

BANANA

BLACKBERRY

CHERRY

WILD CHERRY

RED CURRANT

BLACK CURRANT

GOOSEBERRY STRAWBERRY

GRAPE, CONCORD

LOGANBERRY

NECTAR

PEACH

PEAR

PINEAPPLE

PISTACHIO

PLUM

QUINCE

RAISIN

RASPBERRY

DODGE AND OLCOTT COMPANY

180 Varick Street New York City

"The integrity of the house is reflected in the quality of its products."

Copyright 1930

INDEX TO

The Manufacturing Confectioner's Approved Advertising of Confectioners' Machinery and Supplies

and Miscellaneous Advertising Directed to Manufacturing Confectioners

POLICY: THE MANUFACTURING CONFECTIONER is essentially a manufacturers' publication and therefore is a logical advertising medium only for confectioners' supplies and equipment. The advertising pages of THE MANUFACTURING CONFECTIONER are open only for messages regarding reputable products or propositions of which the manufacturers of confectionery and chocolate are logical buyers.

This policy **EXCLUDES** advertising directed to the distributors of confectionery, the soda fountain and ice cream trade. The advertisements in THE MANUFACTURING CONFECTIONER are presented herewith with our recommendation. The machinery equipment and supplies advertised in this magazine, to the best of our knowledge, possess merit worthy of your careful consideration.

MACHINERY AND EQUIPMENT

Acme Starch Board	63
Eline's Used Machinery	63
Economy Air Conditioning Equipment	52
Greer Confectioners' Machinery	18
Hermann Candy Machinery	59
Hersey Starch Conditioner	16
Hildreth Candy Puller	62
Ideal Wrapping Machines	62
The Lipeometer	54
Mills Mixers and Beaters	15
Package Wrapping Machines	17
Racine Snow Plow Cream Beater	14
Savage Bros. Confectionery Machinery	13
Taber Confectionery Pumps	63
Tanzi Automatic Wrapping and Filling Machinery	Second Cover
Union Used and Rebuilt Machinery	Third Cover

CONFECTIONERS' SUPPLIES

MISC. RAW MATERIALS

Atlas Plastic Food Colors	60
Baker's Milk Coatings	Third Cover
Blanke-Baer Dipping Fruits	10
Cerelose	55
Clinton Corn Syrup	62
Convertit	61
Gum Tragacanth	61
Hooton's Coatings	57
Merckens Chocolate Coatings	7
National Certified Food Colors	57
Nulomoline	58
Pfizer's Citric Acid	56
Rockwood Chocolate Coatings	9
Ross and Rowe Yelkin	54
Runkel's Chocolate Coatings	58
Vac-Milk and Vac-Cream	11
White Stokes Whistojel	56

GELATIN

"Delft"	61
Swift's Superwhip Gelatin	55

FLAVORING MATERIALS

Atlas Flavors	60
Blanke-Baer Flavoring Extracts	11
Burnett's Extracts	59
D. & O. Essential Oils	4
Fries & Bro., Alex., Flavors	55
Fritzsche Bros. Flavors	8
Ungerer's Lemon and Orange Oils	6

FOR THE PACKAGE AND BAR GOODS DEPARTMENT

American Paper Products	53
Cooper Candy Boxes	52
Du Pont Cellophane	19
Nashua Wraps	53

OIL LIMES....

DISTILLED

EXPRESSED



We offer limited stocks of Genuine West Indian Oil Limes Distilled and Expressed at attractive prices.

There appears to be a decided shortage of both types of this oil at the primary markets and in this country. It is an established fact that a cyclonic storm in the Tropics, occurring late last year, destroyed at least a portion of the expected crop for this season.



We Offer Also

Oil Lemon, Italian
Oil Orange, Italian
Oil Bergamot, Natural
Oil Spearmint, U.S.P.
Oil Peppermint, U.S.P.

In addition, the growing demand for Oil Limes for use in extracts, beverages and similar preparations has increased the consumption of the oil noticeably.

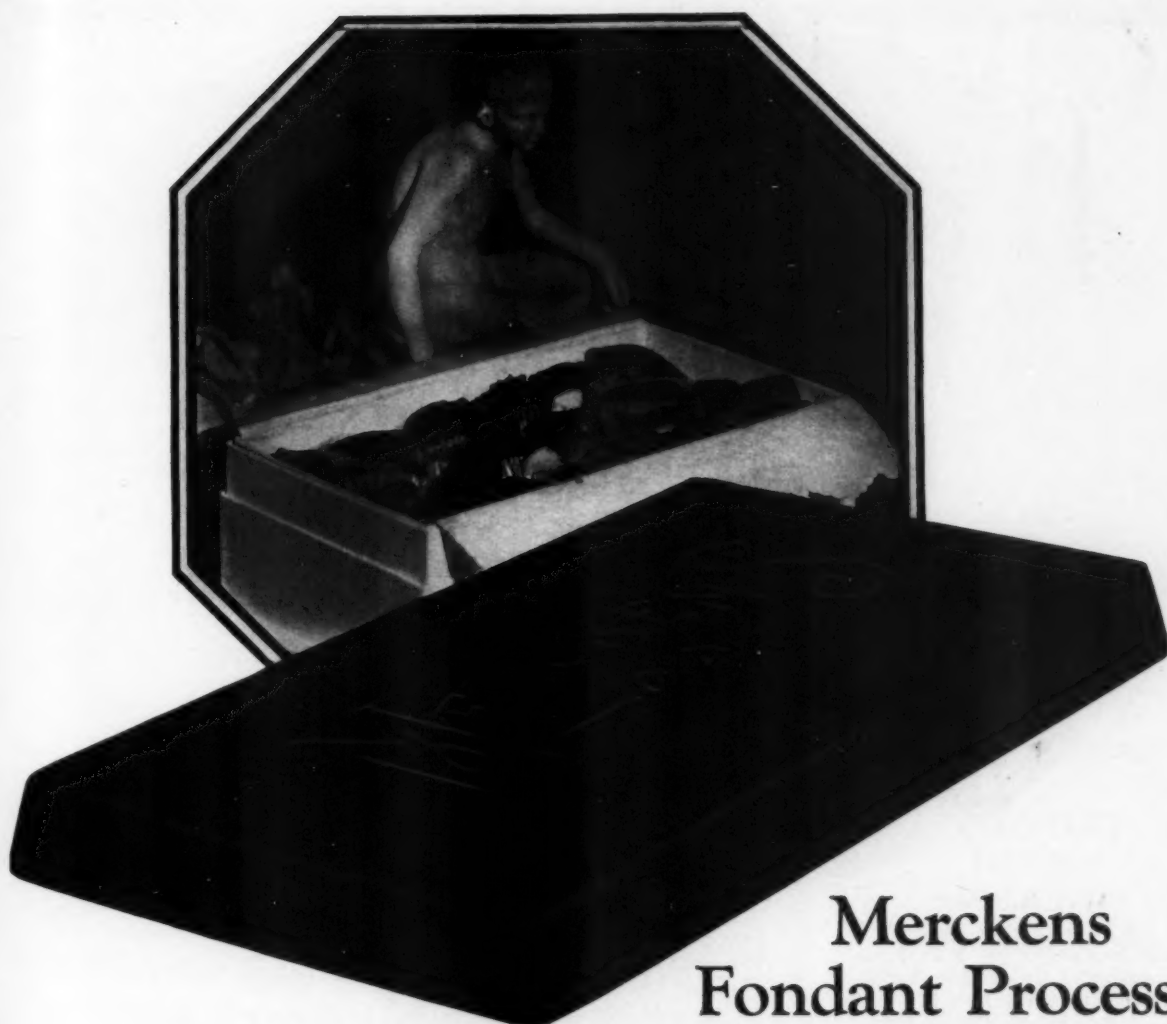
We are prepared to supply you with your requirements up to a reasonable amount at the best prices prevailing today. Communicate with us for quotations—and samples if desired.



UNGERER & CO.

15 West 20th Street

NEW YORK



Merckens Fondant Process The Proper Warm Weather Coating—

There is a two-fold reason why you should coat with Merckens Fondant Process Coating right now—

FIRST—Merckens Fondant Process Coating sets quicker and does not soften as easily as ordinary coatings do in warm weather. This insures the fine appearance and lasting qualities of your chocolates.

SECOND—There is a delicacy of flavor that the Merckens Fondant Process brings out of cocoa—adding to the taste appeal of your candies.

Merckens Fondant Process Coating is manufactured according to a New process—and is true to Merckens Quality. Need we say more?

Branches

BOSTON
131 State St.

NEW YORK
25 W. Broadway

LOS ANGELES
412 W. Sixth St.

CHICAGO
Handler & Merckens, Inc.
180 West Washington St.

*Let us submit samples
without cost or obligation*

MERCKENS CHOCOLATE CO., Inc.
BUFFALO, N. Y.

fritzbro fruit aromes



FRITZBRO AROME PINEAPPLE

The latest addition to the group . . .

It outdoes the fruit itself in delicious flavor appeal.

Let their "true to nature" flavors supply the necessary punch for stimulating Fall business.

They impart truer and finer flavors to your products . . . increasing their appeal and inspiring a desire for more.

These universally applied, fortified True Fruit bases present a matchless simulation of luscious fresh fruit flavors in highly concentrated form—supplying a tempting sales-producing palatability to all types of confectionery products and at most moderate cost.

fritzsche brothers inc

78-84 BEEKMAN ST.
New York

118 WEST OHIO ST.
Chicago

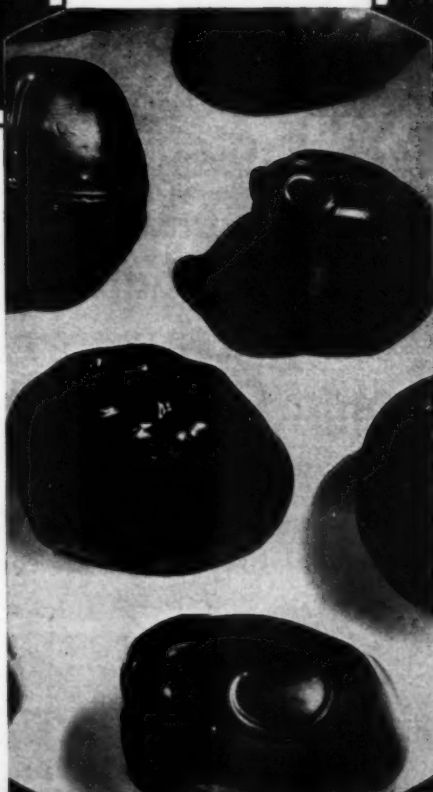
Toronto
FRITZSCHE BROTHERS of CANADA, Ltd.
77-79 Jarvis St.



The modern "Laboratory Controlled" Chocolate Coating for hand rolled cream centers.

The pick of chocolate beans . . finely milled and ground to a velvety smoothness . . carefully milled to protect the strong chocolate flavor and rich appetizing color

— • —
BROOKLYN,
NEW YORK



. . manufactured under rigid supervision to insure moderate price . .
Rialto Coating!

A chocolate coating that seals the flavor and fresh moisture of hand rolled cream centers, preserving these necessary features for an unusual period . . *Rialto Coating!*

— • —
BOSTON CHICAGO
LOS ANGELES

ROCKWOOD & CO.



**If you want action in
increasing your Candy Sales—
Put out an ALL FRUIT BOX**

Containing

BLANKE-BAER DIPPING FRUITS

**Pineapple Cubes
Peach Cubes
Dipping Raisins
Dipping Kumquats
Dipping Strawberries
Dipping Cherries**

Now is the time to start working on this "All Fruit Box" so as to have it ready for your "Fall drive." You should also make it a rule to include in every box of your Fruit and Nut Assortment a liberal quantity of Fruit Filled Chocolates containing these Dipping Fruits.

Write for full information and contract prices

Blanke-Baer Extract & Preserving Co.

3224 South Kingshighway



St. Louis, Mo., U. S. A.

*Plan
now
for
Bigger
Values
in
Better
Quality
Candies*



*Send for
free
formulas
on
Full Cream
Caramels
and
Fudges*



Introducing— Two NEW Products:



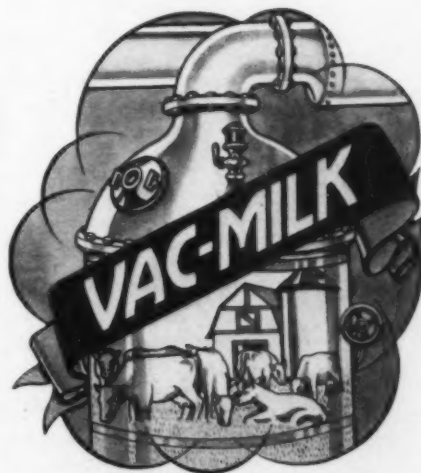
18% Butterfat Vacuum Process

VAC-CREAM is a highly concentrated fresh cream and milk product, vacuum processed, 18% butterfat, 88% solids, retaining all the natural cream and milk flavor. It is now possible for the manufacturing confectioner to produce a full cream standing caramel at a much lower cost.

**(DO NOT CONFUSE THESE PRODUCTS
WITH CARMEL PASTES)**

8% Butterfat Vacuum Process

VAC-MILK is a highly concentrated fresh milk product, 8% butterfat and 88% solids, vacuum processed, retaining all the natural fresh milk flavor. Vac-Milk fills a long felt want enabling the manufacturing confectioner to produce high grade caramels or fudges at lower cost.



These products are backed by our experience of 42 years and guaranteed to be pure.

*Write today for samples of caramels
made of Vac-Cream and Vac-Milk.*

SENNEFF-HERR CO.
Sterling, Ill.

Modernize Your Hard Candy De



Changes from one style to another instantly.

No additional expense for extra chains to make different shapes—

First cost is last cost.

Cut Any Pillow-Shaped Goods, Chips, Straws, Waffles

either hard or soft centers, without machine change!

THE Savage Continuous Candy Cutter will cut without adjustment or change any pillow-shaped goods, Chips, Straws and Waffles—either hard or soft centers—and cuts any width or thickness from the thinnest straws to $1\frac{3}{4}$ inches, and from $\frac{3}{8}$ inch to $1\frac{1}{2}$ inches in length.

The Premier unit, consisting of the Savage Continuous Candy Cutter on Stand with Motor, Cooling Conveyor with white canvas belt, air duct and motor blower.

High speed, continuous, practically self-feeding operation

The cutting chains are built to cut a very thin waffle, any pillow-shaped goods, chips, and straws—either hard or soft centers—any width to $1\frac{3}{4}$ inches, and from $\frac{3}{8}$ to $1\frac{1}{2}$ inches long. Changes from one cut to another instantly. Perfect cutting without waste.

Write for further particulars and prices

THE knives of the Savage Continuous Candy Cutter grip the batch lightly, pulling it through the 10-inch sweep, and gradually increase their pressure until they cut completely through, closing all ends perfectly, leaving no web. There is no waste of materials whatever. Costs for material and labor are reduced to an absolute minimum.

The very high speed of 1,500, 3,000 or 6,000 perfect pieces per minute is secured by the continuous, practically self-feeding operation.

With little experience 100 pounds of soft or hard center goods can be turned out in ten minutes. One machine takes care of three sets of spinners, cutting down labor costs, saving space and increasing your output many times.



SAVAGE
2638 GLADYS AVE.

Department—"Let Savage Do It"!

Savage Brothers have been "doing it" for over 40 years . . . Keeping step with the progress in candy production—developing machinery and methods in close cooperation with practical candy men from coast to coast.

At least let us help work out your candy production problems . . . and be sure you have our new catalog of candy machinery and copper work—nearly 400 items. Check them over, note the new and improved equipment, and let us quote.

Cool the Batch Quickly and Uniformly

THE quick cooling of a candy batch means not only better goods, but a saving of time in human labor, and space.

The Savage "Perfect" Water Cooled Slab is simple in construction, very strong and everlastingly durable.

It cools a batch fast and uniformly, due to special patented construction of top and bottom plates, water dams and water inlet and outlets. The water circulation is perfect. Easily adjusted to variables in water pressures.

(The same slab can be fitted with angle iron frame and height to form a perfect cream slab).

Stock Sizes: 36"x60", 36"x72", 36"x96", 48"x72" and 48"x96".



Consult us on candy production methods

For a Fast and High Cook!

The Herald Forced Draft Gas Furnace is the only kind you will use once you have tried it. For Hard Goods, Cream Fondant, and other goods requiring fast and high cook.

Reduces your gas bill and cooks more goods per hour than any other furnace made.

Used by all up-to-date Manufacturers—Large and small.

With or Without
Blower

Quick

Hot

A Wonder



Get This New Catalog

of nearly 400 items of tools, utensils and equipment for the modern manufacture of confections—let us quote on items interesting, or tells us what you want to do and let us suggest the most practical way of doing it.



*Get the
Catalog—Free*

EBROS. CO.
CHICAGO, ILLINOIS





The "SNOW PLOW" Cream Beater

(Patented)



For making Hand-Roll Cream there is no beater to compare with the Snow Plow.

It is equally superior for all other grades of cream and for tempering chocolate paste. The Snow Plow has a door in the side, adjustable blades, is absolutely noiseless, and has many other new and desirable features not to be found in any other open type beater.

RACINE CONFECTIONERS' MACHINERY COMPANY

RACINE, WISCONSIN, U. S. A.

Thomas Mills & Bro., Inc.

1301 to 1315 North Eighth St.

Philadelphia, Pa.

ESTABLISHED 1864



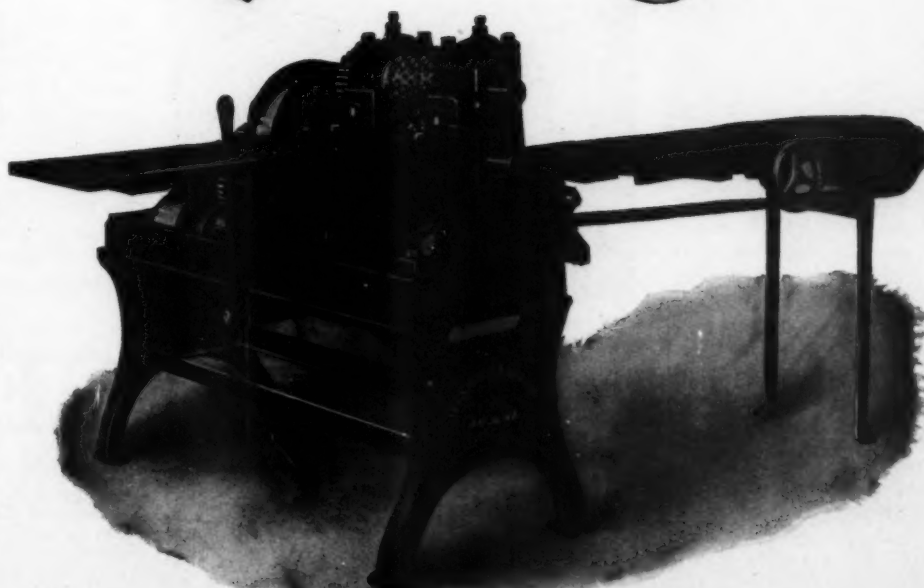
**Patent
Automatic
Seamless
Hard Candy
Machine**

—○—
**Improve Your
Production
By
Installing
This
Labor Saving
Machine
Send for Special
Circular**

**Large Power
Drop Frame
With
Stand and
Endless Belt
Conveyor
Attachments**

—○—
**Used In All
The Largest
Factories
For
High Grade
Hard Candies**

—○—
**Our Catalog
of
Confectioners
Equipment
Sent on
Request**



HERSEY NOW OFFERS a complete starch handling system

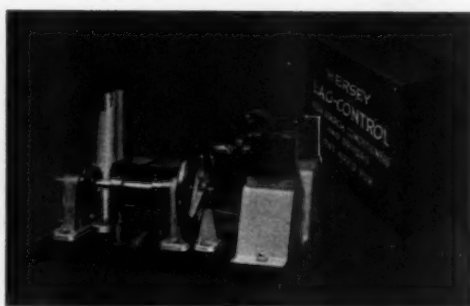
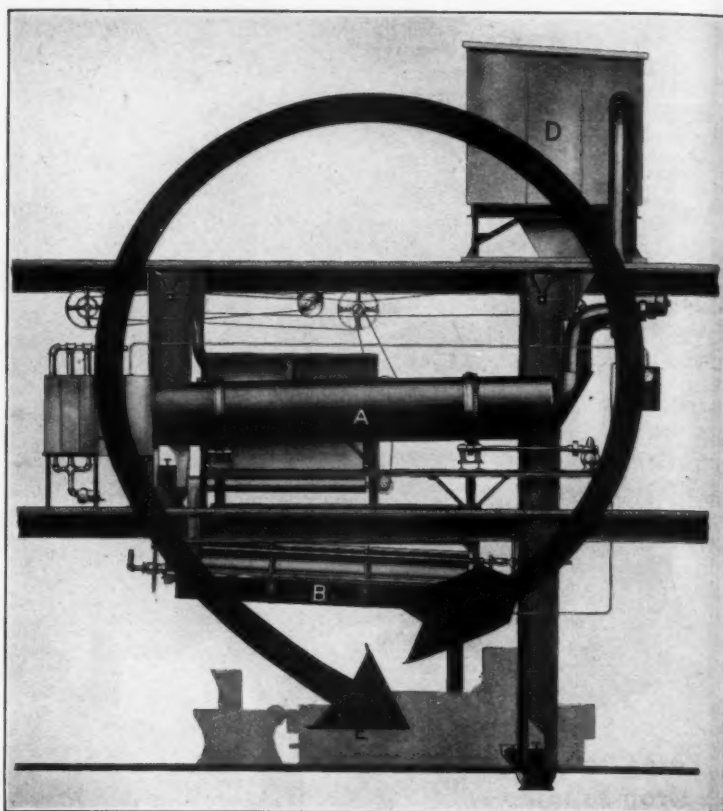
with the **NEW HERSEY LAG CONTROL**

FOR the first time in the history of the confectionery business the handling of starch has been reduced to one simple, single process. With the Hersey system starch starts at the Mogul, is cleaned, dried, cooled and returned to the Mogul again, all in **one** synchronized process. The new Hersey Lag Control makes this possible. It is a device which automatically links the Mogul with the already synchronized steps of the Hersey Starch Conditioner.

The complete handling of the starch is controlled automatically from the Mogul clutch bar by the Mogul operator. The New Hersey Lag Control delays the starting and stopping of the starch conditioner so that the Mogul operator may adjust or readjust his machine. The Starch handling equipment operates **only** when there is starch in the system to be conditioned.

With a Hersey Lag Control on the job, choking an elevator is prevented. There is no wasted starch or lost time in cleaning the jammed elevated system. The entire process of starch conditioning is speeded up with a smoothness of operation hitherto unknown. It is now possible for the operator of the Mogul to handle the whole starch handling system merely by operating the Mogul. He operates the Mogul and the starch handling system takes care of itself. The Hersey Lag Control saves labor, time and money.

All Hersey Starch Conditioners are equipped with this new Lag Control. Get full particulars now. Low in cost, once you have the Hersey Lag Control you will wonder how you ever got along without it.



Hersey now offers a complete starch handling system to confectionery manufacturers. This system is a single process controlled by one man. This is an important development, and we suggest that it will be worth your while to communicate with us immediately.

The Hersey Lag Control is a device for completely synchronizing the handling of starch through the Mogul to the Starch Conditioner and back to the Mogul.

HERSEY

HERSEY MANUFACTURING COMPANY

Main Office and Works:

Corner E and Second Sts., South Boston, Mass.

Branch Offices: NEW YORK CITY, 290 Broadway; PORTLAND, ORE., 475 Hoyt Street; PHILADELPHIA, PA., 314 Commercial Trust Bldg.; ATLANTA, GA., 510 Haas-Howell Bldg.; DALLAS, TEX., 402 Praetorian Bldg.; CHICAGO, ILL., 10 So. La Salle Street; SAN FRANCISCO, CAL., 690 Market Street; LOS ANGELES, CAL., 450 East Third Street.

SCHRAFFT'S

CHOCOLATE BARS

One of many
brands of chocolate wrapped on
Package Machinery Company machines



Chocolate bar wrapping machines in the Schrafft factory
Boston, Massachusetts

The chocolate manufacturers were among the first to discard hand wrapping for machine production—and the Package Machinery Company supplied the machines. Today our machines are used by practically all of the important chocolate companies.

In the confectionery industry, as in many other lines, our wrapping machines are an important factor in the profitable merchandising of the product. They wrap the leading brands of chewing gum, lollipops, mint tablets, fruit drops, caramels, marshmallows, candy bars, etc.

It would be impossible to sell these products in large volume at popular prices were it not for the extremely low production costs of modern machine wrapping.

Our machines also play an important part in package improvements. Time after time, we have helped to secure new and larger markets by virtue of an outstanding improvement in packaging.

When you want the benefit of wide experience and expert judgment on your packaging problem, get in touch with us.

PACKAGE MACHINERY COMPANY, Springfield, Massachusetts
New York Chicago Los Angeles

London: Baker Perkins, Ltd.

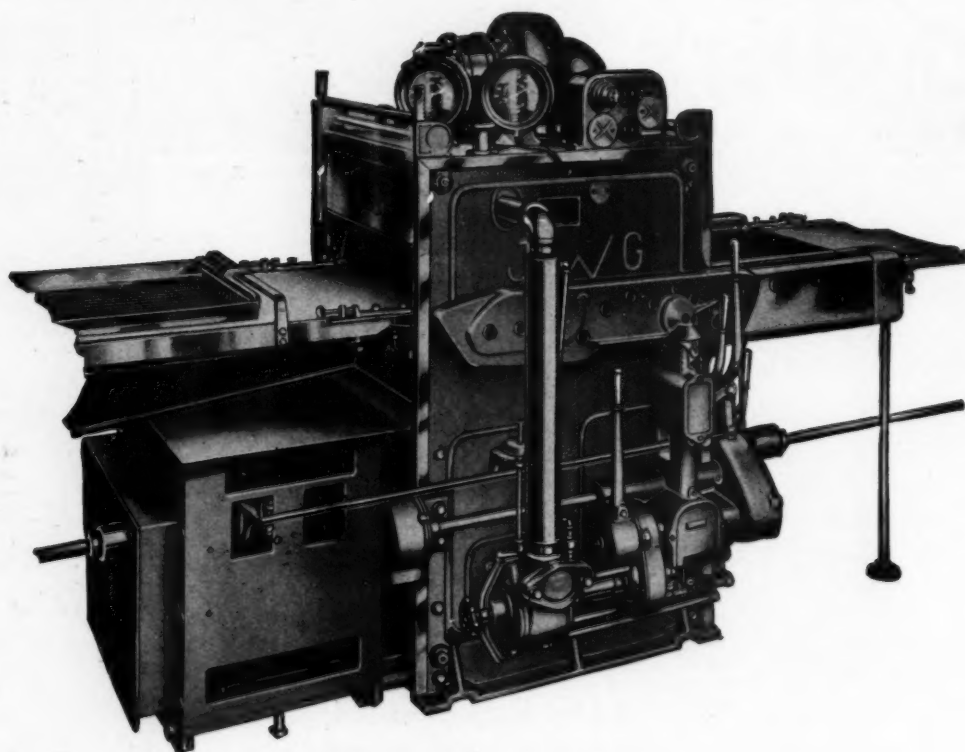


PACKAGE MACHINERY COMPANY

Over 150 Million Packages per day are wrapped on our Machines

GREER COATERS

ESTABLISH A NEW BASIS OF PRODUCTION COSTS



There is nothing intricate or delicate about the Greer Standard Coater—It is a “husky” built machine capable of continuous production under the most vigorous schedule.

And yet it is finely attuned to handle various classes of work from the delicately coated miniature pieces to the mass production of bars.

There are no “ifs” or “ands” about the Greer Standard Coater. It is designed for accuracy, ease of operation and flexibility that insures uniformity of quality and appearance of each piece.

It will turn out your regular routine daily

requirements with precision and expediency. And in an emergency you may push it to peak volume knowing that it will stand up to the test.

The Greer Standard Coater embodies many special features that should commend this machine as the ideal coater for you.

We will welcome an opportunity to present for your consideration, specifications, facts and figures which may be the solution to your production problems. It is just common “horse sense” for you to know what Greer “Built-in Quality” means in efficiency and economy.

J. W. GREER CO., Cambridge, Mass.

London: Bramigk & Co., Ltd.

New York: Miller & McKelvey, Inc.

Manufacturers of Confectioners' Machinery That Pays Dividends

EASY to see . . . **QUICK to sell**

**Five-cent units in
transparent Cellophane
bring in extra
candy profits**

CANDY manufacturers and retailers for years have considered transparent Cellophane a standard sales help on boxed chocolates.

Recently some of the more progressive manufacturers have also had convincing proof of Cellophane's particular effectiveness on smaller units. That is the reason for the Schrafft assortment you see illustrated here. This group gives the customer a wide choice to meet his taste. The individual pieces are priced for impulse purchases. Prominently displayed on a dealer's counter they bring in quick, extra profits.

If you are interested in marketing a series of units like these, our Package Development Department can help you work out ideas on packaging them. Or suggest new and novel ways of taking advantage of the sales appeal Cellophane can add to your present items. For further information, write Du Pont Cellophane Company, Inc., Empire State Building, New York City.



What an appeal to the eye and the appetite there is in these goods! Here is the Cellophane Boat Assortment and display put out by W. F. Schrafft & Sons.



Cellophane

Cellophane is the registered trademark of the Du Pont Cellophane Co., Inc., to designate its transparent cellulose sheeting



Editorial

If They See and Believe, They Will Buy

IN the Philadelphia subways and surface cars there appeared recently a poster which read "Business is Better—for those who advertise." We believe in that statement as far as it goes; our only objection is that it does not go far enough. Two other words should be added:—"intelligently" and "truthfully." Perhaps the author of that caption had in mind intelligent, truthful advertising when he wrote it.

Vast sums can be spent on advertising but unless intelligence has guided the planning and placing of it, business will *not* be better! First, the markets to be reached should be definitely decided upon: next (and this is where intelligence often fails to be applied) the medium or mediums by which the advertising messages will be conveyed should be *carefully chosen* with a view to selecting only those that reach the markets previously determined upon; and finally, the copy should be planned to appeal to and arouse the interest of the class of reader to whom it is directed. That is

advertising intelligently and if these three factors are applied consistently, business for such an advertiser *will* be better.

Similarly, if the product exploited be not advertised truthfully, business will be no better—oh, perhaps for a time it will, but business gained through misrepresentation is seldom, if ever, permanent. One of the most fundamental theories of sales is to make the consumer believe in us and in our products so that he will buy them and *continue* to buy them.

We cannot do this by misleading or untruthful advertising. If the truth cannot be told, far better to save that money and put it into the improvement of the product, and later when there is no further need for concealing the truth, tell it through intelligent advertising.

Business is better—for those who advertise—and if it is not, *you* alone are to blame: either you have failed to apply intelligence in your planning or you have disdained truthfulness in your copy.

We Want Some of Those Thirteen Cents

OUT of every dollar spent by the consumer for food it was said at the recent Convention of the International Association of Ice Cream Manufacturers, that the Dairy Industry gets just twenty-two cents. According to Robert Balderston of the National Dairy Council they have the opportunity of getting thirty-five cents or over one-third of the consumer's food budget. The Dairy Industry is not greedy; theirs are healthful commodities and they simply have a proper appreciation of their value. And too, they are ambitious.

Inasmuch as a large portion of those in-

gredients now used in candy making are dairy products, we should be ready to support any endeavor to attain this ambitious goal. Unless we do lend such support and push our confections the goal may be attained in spite of us with some other group sharing the thirteen cent gain.

Among other remarks made by the Dairy Council's manager was the significant suggestion that now, more than ever before, due to increasing competition, was there a need for advertising and publicity. That is another point we might mull over before deciding on next year's advertising appropriations.

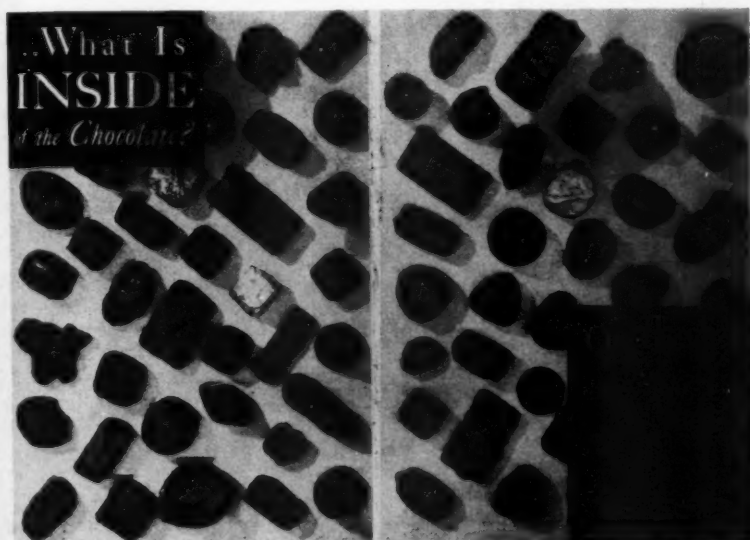
Opportunity Knocks—

ONE of the greatest dangers facing the candy industry at the present time is the temptation to lower quality in order to meet competition. With prices of raw materials so reduced, it should be unnecessary to warn against a lowering of quality. Perhaps it is unnecessary; perhaps the vast majority of manufacturers are smart enough and big enough to realize that succumbing to this temptation would do the industry inestimable harm.

Consumption of candy this year will fall off. If attributable only to general conditions, there will be no need for worry; it will be a temporary loss at the worst. But if a general lowering of quality standards is responsible for even a portion of this loss—then beware of the future: candy's share of the consumer's dollar will be steadily

less and less.

This industry has a marvelous opportunity well within its grasp at the present moment, but instead of cut rates and cut quality increased candy consumption can only be gained by *improved* quality. With the consumer buying carefully and with discrimination as he undeniably is today, quality candy offered to him as a nourishing, economical, concentrated food will have a more far reaching appeal than in the past when it served simply as a tasty tid-bit. The public today is in a different frame of mind and if the candy industry has the courage and the vision to eschew a lowering of quality but on the contrary gives the public a finer, more healthful product for the same money, it will be the profiter for years to come. Opportunity knocks; are you going to let him in?



Reproduction of two editorial pages from *The American Druggist*.

Should Chocolate Designs Be Standardized?

WOULD the consumer be better served if manufacturers would standardize the shapes and stringing of chocolate covered goods? The Editor of *The American Druggist* takes two pages (reproduced above) to put this question before his 25,000 Retail Druggist readers. What is the manufacturer's viewpoint

on this question? To what extent can design of chocolate coated goods be standardized and still maintain the individuality and special character desired by each manufacturer?

Write us frankly on this point and thus facilitate a true cross-section of opinion while our friends serving the drug field are sounding out the retail trade.—Editor.

ONCE upon a time you could look at a piece of chocolate and know instantly whether the inside was caramel, cream, nut or fruit. Because once upon a time manufacturers had a standard method for marking each individual piece of chocolate. Every chocolate that you find in a box of candy, you will notice, has on top some little design—some curlicue. These are the designs that used to be uniform, that all manufacturers used. Now, alas, the system is gone, and every manufacturer has a method all his own. The consumer who hates a cream must first bite into a chocolate before he discovers what it is. Wouldn't the consumer prefer to know in advance? Wouldn't manufacturers be wise in getting together again, and going back to the old way?

What do our readers, who sell so much boxed candy, think of the idea? Surely the question isn't vital. Maybe it isn't even important. But it is interesting. Should we do anything about it? Call the manufacturers to a meeting? . . . Naturally, to begin with, we must have opinions. So we are asking for yours. Will you drop us a line, when you're not too busy?—*American Druggist*, issue of June, 1931.

Health Candies

Will They Open a New Era in Confections?

By ORVILLE H. KNEEN

NOT many confectioners, perhaps, saw the following item in a recent periodical, or if they did, realized its importance:

"Soybeans used in Ice Cream Instead of Butterfat."

It told briefly of soybean oil being used by ice cream makers, or soybean flour used for sherbet, and of another soybean product to take the place of egg yolk. A "soybean health drink" has been made. But so far there is no mention of soybean candy. Yet all these and similar products use sugar to disguise and alter the soybean's flavor, the great bar to its use in western countries as a highly valuable food.

Dr. Chas. E. Fearn described the properties of this oldest of human foods, in a recent issue of *Manufacturing Confectioner*. It is the only vegetable that is almost 100 per cent protein, and thus a substitute for lean meat. It also has valuable fats, and millions upon millions of Asiatics receive almost all their essential vitamins and minerals from it.

Is the confectioner inventing ways of utilizing it in candies, to hold his own with ice cream and soft drink competition? Dr. Fearn points out that soybean flour makes excellent chocolate coatings, centers, fondants and fillings. The soybean is one of numerous foods that might be incorporated into candies, combined into health confections that can be advertised for what they are—the most pleasant, most concentrated and most useful means of insuring a proper supply of minerals and vitamins in the body.

Many candies are rich in these elements, without which life and health cannot go on. But how many confectioners "tell the world" about their tasty vitaminized and mineralized products? Already the breadmaker is a jump ahead, with his "Sunshine Vitamin-D Bread." The ice cream maker is hot on the breadmaker's trail. Milkmen are selling milk with greatly increased vitamin D content, ob-

tained by feeding cows irradiated yeast or irradiated ergosterol. Tomorrow they are going to tell the world about the real value of this process.

Even the fruit and vegetable men are "catching onto the band-wagon." Down in South Carolina they are wrapping bundles of asparagus with slips telling of the iodine content: "South Carolina fruits, vegetables and milk **NATURALLY** contain sufficient IODINE to provide for the requirements of nutrition. Fresh from field to your table." It was good asparagus, too, that this slip was taken from in New York, a few weeks ago.

The dietetic discoveries of the past decade offer to the confectionery industry the opportunity of the century. *Most of the food materials highest in minerals and vitamins are used, or can be used, in candy.* Patent after patent is being issued for Vegetable Candy (including uncooked vegetable juices); new processes for incorporating salts of calcium and phosphorus into candy; using fruits and cereals in new ways, and so on. Several manufacturers offer mineralized candies. Yeast has been combined with chocolates and millions of the little bars are being sold.

What a Health Bar Might Contain

Perhaps some enterprising confectioner will one day offer a chocolate bar containing a fair proportion of *all* vitamins and minerals! No other food product could possibly undertake such a concentration of health elements. Let us see what such a Health Bar would contain. First, of course, milk. Dry milk is as rich in Vitamin-B as is liquid; evaporated milk is about the same. This vitamin is indispensable to health. In their recent "The Vitamins," Prof. H. C. Sherman of Columbia and S. L. Smith, senior chemist of U. S. experimental stations, declared:

"A pronounced deficiency of Vitamin-B is followed by failure of appetite, decreased food consumption, and finally starvation, resulting in gastric and intestinal atony, fall of body temperature, and death."

Milk and cream also provide such essentials as calcium, much more than any other food except dried figs; also some phosphorus and iron. Buttermilk and skim milk have all the minerals of whole milk, with only half the calories. Increasing the proportion of milk, even to a diet already balanced, improves the chances for a long life.

Butter also would appear in our Bar of Health. Test on laboratory animals show that adding only 5 per cent of butter to the ration cures diseases that corresponded to human pellagra. They are caused by lack of Vitamin-G, and produce loss of appetite, inflamed gums, acute pharyngitis, lesions of the esophagus and stomach, etc.

Nuts also would appear, for peanuts and almonds are very high in protein, the tissue-builder, and in phosphorus. Pecans have good proportions of calcium, phosphorus and iron. Almonds, low in calories, are high in minerals and protein, and would be fine for a "fat man's bar."

Chocolate coating also is high in phosphorus and iron, as is cocoa. Dried coconut is a good source of minerals. Honey, contrary to claims of pseudo-experts, is low in minerals, and being very sweet, is eaten only in small amounts. But glucose is mineralized, as are dates and raisins.

Our Health Bar will be at least partly made of iron. The raisin is one source of this mineral that gives to the blood its ability to carry oxygen, and helps build bones. But eggs contain fourteen times as much iron, and dried figs, coconut, dried peas, shredded wheat, all have higher percentages of iron.

Vitamin A and Growth

One of the most important scientific discoveries of all time was the

THE MANUFACTURING CONFECTIONER

isolating of "Fat-soluble Vitamin-A," that makes healthy growth possible. In the future whole nations and races will be influenced by this invisible substance. Its effects will be more far-reaching than great wars, pestilence, famines, and Vitamin-A will build instead of destroy.

Absence of Vitamin-A not only stops growth, but causes tear glands to dry up; the eyelids begin to swell, and ophthalmia ensues, the eye infection often extending to the cornea and causing total blindness. Continued deficiency causes body glands to develop poison sacs, and the general resistance is reduced, leading to lung trouble and other diseases. Liver and cod-liver oil are among the best-known sources of this vitamin. Among candy materials containing this life-essence in good percentage are whole milk, cream, butter and egg yolks. Dried whole milk is very fine, as is summer-pasture butter. As long ago as 1904 S. Mori in Japan cured an epidemic of eye disease that broke out during a food shortage, by feeding chicken livers to children. Some day the essential substance will be extracted from cod-liver oil and other sources, and be made available to confectioners. Dr. E. V. McCollum, noted authority, said recently that "the time is not far when a synthetic product will displace liver in its present uses."

Leafy plants such as escarole (very rich), spinach, alfalfa, chard, clover, etc., have this vitamin. Carrots and orange-peel oil are rich. Candy coloring matter already comes from carrots, spinach, etc. Perhaps colors combined with vitamins will enable confectioners to keep step with science and health as never before!

It is well to remember that in times of depression limited incomes may cause deficiencies in diet. This may be the confectioner's opportunity, for he could offer all needed minerals and vitamins, in the small quantities needed, at comparatively

low cost.

Other Vitamins Available

Vitamin-B prevents beriberi and

it is the long-sought Elixir of Youth, or at least of virility. For it is absolutely essential to reproductive fertility. Thus if a tiny portion (1 per

cent by volume) of ferric chloride dioxid in ether, with a little water, is poured over their rations, rats are made completely sterile after being bred. The substance removes the Vitamin-E, but does not affect other vitamins nor alter the nutritive values. It does not affect the sex glands, but stops development of the young.

Lettuce leaves and wheat embryo provide ample of this vitamin, which is also in egg yolks and in pasture-fed milk. Alfalfa leaves have it, peanuts and corn embryo also, and vegetable oils and butterfat to some extent. Confectioners could easily incorporate the very small quantities of this vitamin needed by the average person.

Fruits, used so much in candies, contain Vitamin-B, the juice of oranges, lemons and grapefruit being as rich as milk. Prunes, pineapples, bananas and other fruits are well mineralized and vitaminized. Lemonade, well sugared, is a cure for some types of acidosis. Raisins are also very

alkaline, and counteract acid conditions.

Fruits and their juices are largely water. Concentration can be carried to a high degree. Double or triple strength fruit drops, made with care so as not to destroy vitamins and to concentrate minerals, would be a fine summer candy, and bring health all the year.

Calcium, Builder of Teeth and Bones

There is no mineral vital to the human body that cannot be provided in candy. Calcium, builder of teeth and bones, and often lacking in modern diets, is as strong in dry milk as in liquid. There are people who do not like milk to drink. Its solids can be made into candies that will give them more than their minimum quart-a-day of milk.

for good health, sound teeth and strong bones

EVERYBODY needs sunshine vitamin-D NOW IN Bond Bread

VITAMIN-D, known as the sunshine vitamin, is a vital food element. Good health, proper growth, sound teeth and strong bones depend upon plenty of this food essential.

UNTIL now, the only sources of vitamin-D have been medicines, artificial sun-lamps, and the sun itself. But to get enough from sunshine, you would have to spend each midday outdoors. That's why we who work at home, at schools, in factories, offices or in stores, just simply can't get enough.

For health's sake, every member of your family should eat delicious Bond Bread—the same firm, appetizing Bond Bread you have always known. One to two slices each meal will give you the extra sunshine vitamin-D you need.

Backed by Scientific Authority
The University of Wisconsin Medical Research Foundation and the Pathologic Research Foundation of Toronto have bestowed upon Bond Bread the exclusive right to make the sunshine vitamin-D available to the public through bread. These scientific guarantees that one to two slices of Bond Bread each meal will give you the additional sunshine vitamin-D you need. The Pathologic Research Foundation of Toronto, Canada, declares: "Bond Bread is the only food that gives you the extra sunshine vitamin-D you need."

Look for this emblem of health on the familiar wrapper. Bond Bread is the only food that gives you the extra sunshine vitamin-D you need.

Bond Bread
SLICED or UNSLICED

GENERAL BAKING COMPANY
Bond Bakers Whole Wheat Bond Bread also brings you sunshine vitamin-D

Vitamin-D and a well planned advertising campaign are helping the General Baking Company to sell more bread

similar ills. All the following materials that contain it are used in candies—note how much more of the vitamin are in yeast and wheat germ. Taking the former as 100:

Dried Yeast	100
Wheat Germ	66
Bran	12 to 13
Whole Wheat	8 to 10
Rye	9
Barley	7 to 8
Corn	7 to 8
Buckwheat	5 to 6
Oats	4 to 5
Oatmeal	4

In the Japanese navy beriberi was completely prevented by using barley in the ration, but it required a proportion of one-third of the dry weight of food consumed. It is the embryo of grains that contains most of the vitamin. Whole grains have been used effectively in candies.

One of the most interesting of vitamins is Vitamin-E. In a way,

HEALTH CANDIES

Milk sugar is known to aid the body in absorbing calcium from milk, something that glucose and sucrose will not do. Health candies, therefore, should contain much milk sugar. Pregnant and nursing mothers require at least a quart of milk a day. But there are many places where fresh—and safe—milk cannot be procured daily. Here "health tablets" should be always on hand.

Foods rich in calcium, according to Technical Bulletin 105, U. S. Department of Agriculture, are, in order of importance:

Condensed milk	Almonds
Dried figs	Peanuts
Wheat bran	Chocolate
Oatmeal	Raspberries
Dried peas	Pecans
Milk, whole and skimmed	Dried apricots
Cream	Eggs

Iron is another essential to health, and many candy materials contain it, such as wheat bran, oatmeal, eggs, cocoa, chocolate, molasses, dried figs, dates, almonds, raisins, and currants. Chestnuts are very high in iron, dried peas and dried coconut fairly high. Whole grains and fruits are as valuable as green vegetables.

Oddly enough, it has been found that copper, once thought a body poison, is an actual necessity in the body. Also, it greatly aids the blood to take up iron, the great need of the anaemic sufferer. Only traces of copper appear in the body, but they are indispensable. Copper kettles provide the infinitesimal amounts needed, and thus directly benefit the candy eaters. Nuts are good sources of copper.

Goitre is prevented today, in regions where iodized water or sea-food are lacking, by "dosing" the drinking water. Iodized table salt is widely sold. The body contains only about 1 part of iodine per 2,800,000, yet disease of the thyroid gland quickly comes if it is omitted.

One Manufacturer Is Wise

Some fruits and vegetables contain iodine. Witness how the alert growers of iodized products advertise their advantages—as in South Carolina. The candy maker is beginning to "get hep," for there was put on the market recently the "Cape Cod Cranberry Bar." This notation appears on the wrapper:

"Made with Cape Cod Cranberries—the pure fruit—no artificial color or flavor. Cape Cod Cranberries grow in the rich peat soils among the sand dunes of Cape Cod, swept by ocean spray, rains, fogs and winds, developing maximum iodine content so essential to human health. Iodine is well known as one of the necessary elements in the diet, and is a treatment and preventive of goitre. These cranberries also contain iron, lime, sugar and mild acids, all giving to an alkali blood a defense against disease."

It would be hard to beat this as a selling appeal to intelligent folk. Here, too, are the opportunities to develop distinctive, local candies, playing up health properties and local products at the same time.

Phosphorus is another element needed in every body, for blood cells and tissue builders cannot function without it. Bones need it, too. The best foods for phosphorus, in order of importance, are:

Wheat bran	Flour, whole
Oatmeal	wheat and
Cocoa	buckwheat
Almonds	Dried figs
Chocolate	Dried coconut
Dried peas	Pecans
Peanuts	Fresh whole milk
Condensed milk	Farina
Prunes, raisins and dates	English walnuts

The body contains mere traces of copper, zinc, sulphur, chlorine, arsenic, manganese, lithium, potassium, magnesium, etc. Yet all are vitally necessary, though we do not yet know the function of each. We get these elements and common salt,

through our food—if we eat a varied assortment.

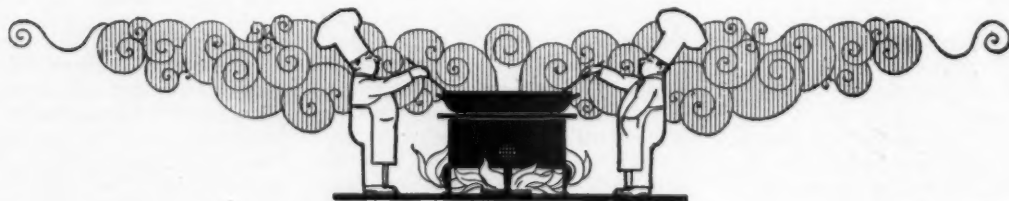
An Experiment with Rats

Recently Dr. E. V. McCollum, of Johns Hopkins University, widely known research worker, told of remarkable experiments on rats. A diet was evolved that was completely free of manganese. Fed to male and female rats, no effects were noted for about 100 days. Then things happened.

"The mother rats fed on a manganese-free diet," said Dr. McCollum, "showed no maternal solicitude for their young. They paid no attention to them and let them die. After a certain lapse of time no more offspring were born. We found the diet had also affected the males. On substituting these with normally fed males, the females again produced young, but abandoned all again as soon as they gave birth to them."

Only five one-thousandths of 1 per cent of manganese kept the rat family relations straight. Even more striking was the ability of normal rats to detect offspring of manganese-free mothers. Though the rat mother normally nurses strange offspring without noticing the difference, when manganese-free young were brought in the normal mother would have nothing to do with them! Nor would manganese-free mothers have anything to do with normal young. Their maternal instinct seemed to be destroyed.

Thus science lays the foundations for perfect understanding of the complex human system. Perhaps crime and other ills are largely caused by lack of vital elements. The day may yet come when confectioners will offer compounds and combinations like the apothecaries of old—but this time warranted to do the job, and backed by the certain knowledge of science.





Date palms in California heavily laden with fruit.

Fruit Candies

Part 3. The Use of Dried Fruits in Candy

By W. V. CRUESS

Fruit Products Laboratory, University of California

DRIED fruits may be used in many kinds of standard candies and in "unorthodox" ways in the preparation of special candies.

They constitute a particularly desirable raw material because of their availability throughout the year, low cost, easy adaptability to candy making and their low moisture content. Low moisture content makes long cooking unnecessary.

However, as is the case with all fruit candies, those made with dried

fruit must contain a large proportion of fruit in order that the candy will appear and taste like the fruit from which it is made. The relatively mild flavor of fruits is criticized frequently by commercial candy manufacturers and is the reason commonly given for not using fruits in candy. "They have no kick," is the usual way of expressing this criticism. Compared with mint, vanilla, orange oil and chocolate, the flavor of fruits is mild; there is no doubt about it. For that reason,

chocolate coatings mask the fruit flavor and a more neutral coating should be used. Nevertheless, if "plenty" of fruit is used in the batch, the candy will be readily recognized as fruit candy and no "fortification" with artificial color or flavor will be needed.

Dried Fruit Fondants

Fondant and raisins or fondant and chopped dried fruits of various kinds blend well to give candies of pleasing flavor and appearance. It

FRUIT CANDIES



A view of the University of California's fruit dehydrator, Davis, California

is necessary, however, to use a fondant that will not become hard and "flinty" because of excessively rapid "drying out" in the box or in the candy case. We have found that an invert syrup fondant "stands up" well; glucose fondants, however, have dried quickly and soon have become so hard as to be inedible.

Each candy maker has his own fondant formulas, and in preparing dried fruit fondants should select a formula that gives a moderately soft and non-drying fondant. We have used the following mix successfully for an apricot-raisin fondant:

12.5 pounds of invert syrup.
27.5 pounds of cane sugar.
 $\frac{3}{4}$ gallon of water.

Cook to 241° F. Cool to about 200° F. Cream. Add vanilla flavor. While still thin stir in 10 pounds of chopped dried apricots and 30 pounds of bakers' grade Thompson seedless raisins or seeded muscat raisins. Before the fondant becomes too hard, spread on an oiled slab or oiled paper to harden. Cut the desired size and shape. This candy may be dipped if desired; a milk chocolate coating is preferable. We begin stirring the fondant syrup at 200° F.; although we realize candy makers cool to a much lower temperature before creaming. We find that creaming hot permits us to stir in the fruit more readily.

If a nut and dried fruit fondant is desired for a higher priced candy, the fondant is prepared as above with sufficient chopped walnuts or almonds and 30 pounds of raisins or chopped dried fruit.

For a lower priced nut and dried

fruit fondant we have substituted roasted blanched peanuts for the almonds or walnuts.

Chopped dried figs give a particularly desirable fondant candy. Likewise, they mix well in the fondant with other dried fruits.

The so-called "practically peeled" dried peaches may also be used.

These candies may be cut to five-cent bar size and because of their healthfulness and fruity flavor should possess unusual advertising and sales appeal. They carry about 50 per cent by weight of dry fruit, equivalent to three to six times its weight of fresh fruit.

Of the dried fruits tested, we have found apricots, figs and raisins most adaptable to the above product.

Cooking Dried Fruit in Fondant Mix

Another method of preparing dried fruit fondant consists in cooking the fruit in the batch and then creaming the cooked mixture. Since dried fruit carries a large amount (40-65 per cent) of invert sugar, less invert syrup is required in the mix than for the fondants described earlier in this article. Here again each candy maker will want to follow his own judgment, and the following formula used in our experiments is offered as a general guide only:

Sugar, 15 pounds.
Invert syrup, 3 pounds.
Water, $\frac{1}{2}$ gallon.

Cook to 238-240° F. Add 6 pounds of rather finely ground, moist dried fruit. Cook to 240-241° F. Cream and pour on oiled slab

to harden. Add about 2 pounds of chopped nuts during creaming if desired.

Puffed Dried Fruit Fondant

The preceding fondants are rather "heavy." In experiments we have found it feasible to produce a "raised" or "puffed fondant" by adding a little baking soda or baking soda and powdered citric acid during the final stages of creaming. Proceed as in the preceding formula but add before the mixed fruit and fondant become very stiff about 1 level tablespoon of baking soda (sodium bicarbonate) to each 10 pounds of mixture, and work it in thoroughly. If the fruit lacks acidity, add also about 1 teaspoonful of powdered citric acid and mix in well before the baking soda is added. Pour or spread on an oiled slab to harden. The finished product on cooling should be rather crumbly and be filled with small gas pockets. If trial shows it to be too soft and sticky, use less invert syrup in the mix; if it dries too rapidly and becomes "flinty," use more invert.

Marshmallow with Dried Fruits

Raisins and chopped nuts or chopped dried figs, apricots or peaches may be whipped into ordinary marshmallow to good advantage. In our tests we have prepared a marshmallow by standard formula and during the final stage of whipping have stirred in approximately 50-75 per cent by weight of whole raisins or chopped dried fruits such as apricots or figs together with enough chopped nuts to give a pleasing mixture. The candy, after "setting" to the desired consistency on a slab, is cut. Because of its low density, that is, large volume of a given weight, it is suitable for five-cent bars and is much less "filling" than the dried fruit fondants previously described.

"Puffed" Uncooked Dried Fruit Candy

Candy makers (both commercial and in the home) have ground moistened dried fruits finely and moulded them to various sizes and forms. Such candies are, however, usually quite dense in texture and soon become hard and tough. We have, therefore, attempted to obtain an uncooked ground dried fruit candy of lighter texture and better keeping quality.

The dried fruit is first finely ground. It is then placed in a steam

THE MANUFACTURING CONFECTIONER

jacketed kettle. If it is not fairly moist, add 5 to 10 per cent of water. Add also 1 pound of invert syrup to each 10 pounds of fruit. Warm until soft. Mix. Add slowly and mix in about 1½ ounces baking soda to each 10 pounds. When well mixed, spread on a slab to harden. Chopped nuts improve the product.*

Dried Fruit and Cocoanut Candy

One of the best of our experimentally made dried fruit candies was prepared with cocoanut and dried fruit in a base consisting of sugar, invert syrup, apricots, and butter cooked to 242° F. For sake of illustration, apricots and raisins are featured in the formula. Other fruits may be used.

- 1 No. 10 can of pie grade canned apricots (peaches may be used).
- 7 pounds sugar.
- 2 pounds invert syrup.
- ½ pound butter or nut margarine (such as Nucoa, etc.).
- 2 pounds of macaroon cocoanut.
- 8 pounds of Thompson seedless raisins.

Cook all except raisins and cocoanut to 242° F. Stir in raisins and cocoanut until stiff. Spread on slab to cool. Cut into squares or bars of desired size and shape.

If desired, a small amount of powdered citric acid may be added with the raisins.

Other chopped dried fruits may be used to replace part or all of the raisins.

If desired, 1¾ pounds of dried apricots may be used instead of the canned. If this is done, soak the apricots in 3 quarts of water overnight. Cook soft and use in formula in place of canned apricots.

This candy is somewhat "chewy" but less so than most caramels.

Panache with Dried Fruit

As in other formulae given in this article, those who wish to experiment with dried fruit candies may substitute for the following formula used in our tests, any standard formula for panache, and add the proportion of dried fruit indicated:

- Brown sugar, 5 pounds.
- Condensed milk, ¾ pint.
- Invert syrup, ¾ pound.
- Butter or margarine, 3 ounces.
- Chopped almonds or walnuts, 1¼ pints.
- Chopped dried fruit or whole raisins, 2½ pounds.
- Salt, ½ ounce.

Cook all ingredients except nuts, butter and fruit to 238° F. (soft ball). Add the butter. Cool to about 110° F. and beat until nearly stiff enough to pour. Add the nuts and fruit. Stir in well. Spread on slab to harden.

Panache, like fudge, "dries out" rather rapidly and is best when fresh.

Fudge

Dried fruits give good results in fudge; any good fudge recipe may be used. Candy makers often use "odds and ends" of unsold batches of candy for making fudge. In our tests we have used the following formula:

- Sugar, 5 pounds.
- Condensed milk, 2 pints.
- Invert syrup or glucose, ¾ pound.
- Chocolate, ¾ pound.
- Butter or margarine, ¼ pound.
- Chopped dried fruit or whole raisins, 2 pounds.
- Chopped nuts, ¾ pint.
- Salt, ½ ounce.

Cook all except fruit, butter and nuts to 240° F. (medium ball). Add butter and cool slightly. Stir until nearly stiff enough to pour; then stir in fruit and nuts. Harden on slab. See also alternative fudge formula for prunes.

Dried Prune Health Candies

Dried prunes give a health candy of marked but mild laxative property. Such candy should be in de-

mand as it is a natural laxative. Pitting prunes by hand is costly. We have found the following procedure preferable. The prunes are cooked with water to cover generously until soft. They are allowed to cool overnight. The water is discarded and the prunes are then rubbed through a screen or coarse sieve to remove the pits. The resulting pulp is then used in any one of several candy formulae. The following formulae have given good results:

Prune Fudge

Lot 1

- 2 pounds sugar.
- 1 pound glucose.
- Water to dissolve sugar.
- 3 pounds prune pulp.

The sugar, glucose and water were cooked to the "first crack" or 254° F. The prune pulp was then added to the mixture and this was boiled to a medium soft ball or to 240° F.

Lot 2

- 3 pounds sugar.
- 1 pound cocoanut butter.
- 1 pound glucose.
- 30 ounces (5 small cans) condensed milk.

The ingredients were mixed and cooked to a hard ball or "first crack," cooled and then creamed by rubbing a stirrer against the side of the cooking vessel. When the mixture had creamed, lot 1 was added to lot 2 sufficiently slowly to maintain the creamy consistency. The candy was then poured on paper or on an oiled slab to harden.

Prune Jelly Candy

- 7 pounds prune pulp.
- 5½ pounds sugar.
- 1¾ pounds glucose.
- 3½ pounds invert syrup.
- ½ ounce citric acid.
- 1½ ounces dry pectin.

Before dissolving the pectin use one-half of the sugar given in the formula and mix the pectin and sugar dry. Add water slowly and stir until the pectin is in solution. Add this to the other ingredients. Add all ingredients except the acid. Boil to 220° F. Have at hand the acid dissolved in a small amount of water and add it at this point and continue cooking to 223° F. Pour and allow to solidify.

In factory experiments at the Euclid Candy Co. factory in San Francisco and elsewhere the hot liquid after cooking was poured into starch molds. It hardened and was ready for coating with sugar or chocolate in 3 hours.



An attractive pack of dried pears and candied cherries, wrapped in transparent cellulose

*Formula developed by Mr. Rosin of Oakland, Calif., and by J. H. Irish of the Fruit Products Laboratory.

FRUIT CANDIES

Other Dried Fruit Candies

Caramel may be made with 40-60 per cent of dried fruit added after the cook is nearly completed; the mixture is then cooked to 248°. On a laboratory scale a satisfactory candy is obtained. However, such candies as chocolate fudge and caramel possess such a rich flavor that they tend to mask the fruit flavor.

The French use candied fruit in nougat. Dried fruit can be used in this candy also, although the result leaves something to be desired.

Raisins and chopped dried fruits may be cast in agar agar (Jap. gelatin) jelly, although a much better jelly candy is made with fresh or canned fruit and fruit pectin in the manner described in an earlier article.

Dried figs, pitted large size dried prunes (30-40 or 40-50 size, hand pitted), and pitted dates are often stuffed with fondant. They may also be chocolate coated.

Fancy Pack Dried Fruits

During the holiday season dried fruits and nuts garnished with a few pieces of candied fruit are packed in fancy boxes and baskets. Most of these packages are put up by dried fruit packers in California, and all things considered, it is possible that candy manufacturers could

MATERIAL

	No. of pieces	Total weight in grams	Approx. weight in oz.
1. California dates	12	110	3.6
2. California figs (Calimyrna variety)	18	360	12.0
3. Strips of candied grapefruit peel	12	70	2.3
4. Large dried prunes, 20/30 size	6	130	4.3
5. Candied apricot	0.5	25	1.0
6. Loose Muscat raisins, not seeded	60	75	2.5
7. Small gumdrops, foiled	18	37	1.2
8. Small oblong sweet chocolate pieces in foil	6	27	1.0
9. Almond meats, foiled	18	25	0.8
10. Whole almonds in the shell	111	130	4.3
	261.5	989	33.0

buy the packed fruits to better advantage than they could purchase the bulk fruits and do their own packing. On the other hand, some readers of these articles may wish to experiment with this pack. The retail price is usually high and it would appear that the margin of profit should be good. For example, a 2 pound basket of fancy packed dried fruits and nuts purchased in Berkeley recently cost \$3.80. Naturally, the fancy basket constituted much of the cost.

This basket contained the following materials:

The basket was 12 inches in inside diameter and about 3 inches in depth. The almonds in the shell and loose raisins covered the bottom

layer in the basket. The other materials formed the top layer. The manner of packing is shown in the illustrations. See also illustration of fruit wrapped in transparent cellulose.

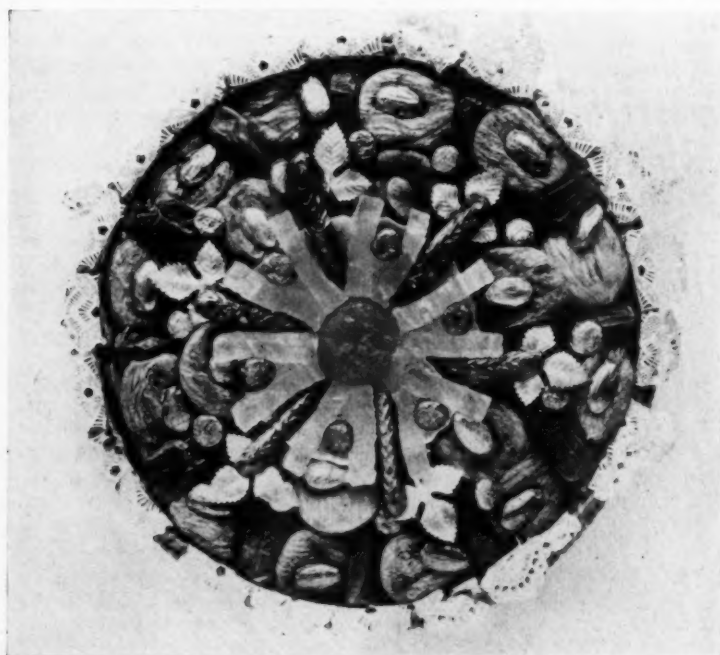
The figs and prunes, if purchased in bulk, usually require processing before packing. Prunes are merely dipped in boiling water for 2 to 3 minutes and drained. Figs are usually dipped in a boiling dilute brine of about 2 ounces of salt per gallon of water for 3 to 4 minutes. Both figs and prunes are then flattened with the fingers to the desired form. They must not be too wet or they will mold. Figs require close inspection to eliminate insect infested fruit. Walnuts may be substituted for the almonds, or a mixture of the two may be used.

Fancy dried apricots and fancy dried pears of the largest sizes may also be used to advantage in these packages.

The foiled almonds and small foiled candies are used for decoration, as are also the candied apricot and candied strips of grapefruit peel. See illustrations for arrangement.

Dried fruits are not good keepers; they soon become "buggy" from insect infestation in the average store. With luck they will keep 4 to 6 weeks. They also become over-dry and may become sugary on long storage. If the dipping solution used for figs and prunes contains some invert syrup, the fruit will be glossier and will not sugar so quickly.

The writer firmly believes that there should be a good demand for a lower priced pack, perhaps in regular candy boxes, to sell at a popular price; for example, 2 pounds for \$1 retail. Everyone likes almonds, walnuts, and dried fruits, but most of us are "scared away" by the high prices asked for fancy packs.



Showing the top layer of basket packed with dried fruits and nuts. Observe the pattern. A candied apricot in the center is surrounded by pieces of candied grape fruit peel. Figs and dates in outer circle

1931 AUGUST 1931						
SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

1931 SEPTEMBER 1931						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

The CANDY MAN'S CALENDAR

AUGUST			SEPTEMBER		
8th Month		Birth Stone: Topaz Birth Flower: Poppy	9th Month		Birth Stone: Chrysolite Birth Flower: Morning Glory
31 Days	5 Saturdays / 5 Sundays		30 Days	4 Saturdays / 4 Sundays	
Day of Month	Day of Week	EVENTS	Day of Month	Day of Week	EVENTS
1	Sa	Are your moths hatching nicely? Too bad you didn't fumigate!	1	Tu	American Chemical Society Annual Meeting continues at Buffalo, N. Y., for balance of week.
2	S	.....	2	W	Monthly meeting Retail Confectioners' Association, Philadelphia, Pa.
3	M	Meeting directors, Fruit & Flavor Syrups Association, Boston, Mass.	3	Th	Monthly meeting Buffalo Confectioners' Association, Buffalo, N. Y.
4	Tu	.....	4	Fr	Monthly meeting Wolverine Candy Club, Hotel Norton, Detroit, Mich.
5	W	Monthly meeting, Retail Confectioners' Association, Philadelphia, Pa.	5	Sa	.....
6	Th	.....	6	S	.....
7	Fr	Monthly meeting, Wolverine Candy Club, Hotel Norton Detroit, Mich.	7	M	Labor Day—Meeting Directors, Fruit and Flavor Syrups Association, Boston, Mass.
8	Sa	Be sure to have your fall packages out by the end of this month so they'll be ready for September sales.	8	Tu	Affiliated Chain Drug Store Convention, Hotel Commodore, New York (2 days).
9	S	.....	9	W	Monthly meeting North Pacific Nut Growers' Co-operative, Dundee, Oregon.—Meeting of the Manufacturing Confectioners of Baltimore, Baltimore, Md.
10	M	Monthly meeting, North Pacific Nut Growers' Co-operative, Dundee, Ore.	10	Th	Monthly meeting Board of Directors, California Walnut Growers' Association, Los Angeles, Cal.
11	Tu	.....	11	Fr	.....
12	W	.....	12	Sa	Dealers should all be well stocked with pencils, pads, erasers, candy, etc., for Monday's school opening.
13	Th	Monthly board of directors meeting, California Walnut Growers' Exchange, Los Angeles, Cal.	13	S	.....
14	Fr	Get Christmas orders in early. Give the factory time to turn out goods in the right way.	14	M	School opening. Millions of Kiddies made happy(?) Twenty-second Annual Convention (3 days) Northern Nut Growers' Association, Geneva, N. Y.—Third Boston Conference on Retail Distribution, University Club, Boston (3 days).
15	Sa	.....	15	Tu	Annual meeting, New England Retail Confectioners, Boston, Mass.
16	S	.....	16	W	Monthly meeting Diligence Club, Reading, Pa.
17	M	.....	17	Th	Constitution Day.—Monthly meeting Confectionery & Chocolate Manufacturers of New York State, Hotel Pennsylvania, New York.—Annual meeting and election of officers, The New York Candy Club, Inc., New York.
18	Tu	.....	18	Fr	.....
19	W	Monthly meeting, Diligence Club, Reading, Pa.	19	Sa	Sweetest Day is less than a month off. Be prepared!
20	Th	Monthly meeting, Confectionery & Chocolate Manufacturers of New York State, Hotel Pennsylvania, New York City.—Chicago Candy Production Club Golf Tournament—Chicago Candy Club picnic.	20	S	.....
21	Fr	.....	21	M	Associated Chain Drug Stores Convention, Hotel Roosevelt, New York (2 days).
22	Sa	Now's the time to start selling goods at a profit.—They've been selling long enough at cost—or less.	22	Tu	Monthly meeting Candy Square Club, Hotel McAlpin, New York.
23	Su	.....	23	W	.....
24	M	Monthly meeting, Candy Executives & Allied Industries Club, New York City.	24	Th	Monthly meeting The Anthracite Club of Pennsylvania.
25	Tu	Monthly meeting, Candy Square Club, Hotel McAlpin, New York City.	25	Fr	Business improving?
26	W	.....	26	Sa	American Indian Day. E-E-E-Yow! Yip! Yip! Givum heap plenty candy!
27	Th	Monthly meeting, The Anthracite Club of Pennsylvania.	27	S	.....
28	Fr	.....	28	M	Monthly meeting Candy Executives and Allied Industries Club, New York.
29	Sa	From now on, BUSINESS SHOULD BE GOOD!	29	Tu	.....
30	S	.....	30	W	Be ready with your Hallowe'en novelties,—its only a month away.
31	M	Annual meeting, American Chemical Society, Buffalo, N. Y. (one week).			

"Certified"

The Confectioner's Guarantee of Color Purity

By HORACE TERHUNE HERRICK

Principal Chemist in Charge, Color Certification Laboratory,

Food and Drug Administration, U. S. Department

of Agriculture, Washington, D. C.



THIRTY years ago, when the world was younger, and before the passage of the food and drugs act, now celebrating its twenty-fifth anniversary, our parents warned us not to buy bright colored candies because they were dangerous. When we asked why they were dangerous, we were told that they were made with coal-tar colors and that coal-tar colors were very poisonous. The attitude was the result of a prejudice which still exists, even though careful supervision now assures the public that certain artificial colors are both safe and satisfactory; so that the words "aniline dye" applied to color in candy or any other food, no longer can be considered a term of condemnation.

First of all, why was it necessary to warn the small boy of thirty years ago not to choose the bright colored candies? What was the instinct that guided him to the brilliant crimsons and purples rather than to the more sober shades? The story is a long one and dates back to the time when our forefathers lived in trees and caves and dodged the saber toothed tiger and members of his family. There were no coal-tar colors then—only vegetable dyes—and vegetable dyes in their natural condition offer as brilliant an array of color as anyone could desire.

When the Neolithic boy or his parents sought food in the forests and fields of a primeval era, there was only one sense which was of value in leading him to the object of his search. That was the sense of sight. Vividness of color was

the characteristic which made the fruits on tree and vine stand out from the less conspicuous hues of the foliage, and it was color, therefore, for which our ancestors learned to look when they wanted food.

With the passing of the centuries, conditions changed, but instincts remained. Man in his evolution passed from cave to hut and from hut to apartment house and while he was changing his habits of living, the source and the nature of his food changed with him. It must have been at a very early time that he first learned that, while vegetable dyes are brilliant and beautiful, they are also fugitive. Whether the information came through experiments in cooking or in some other way is a matter of small moment, but it is very possible that the former may have been the case, for every housewife knows that the finished product that appears on the table very frequently bears small resemblance to the bright colored vegetable that went into the pot. As long as the processes of preparing food were in familiar hands, this change in color was of little consequence. Every step in the transformation could be accounted for and the consumer knew that the food was good, no matter how it looked. Now things are different, for materials

pass from field to factory and from factory to grocery or candy store before reaching the home, and who can say whether the change in appearance is due to defects of origin or processing, or whether it is a normal alteration?

Color Psychology

And now we come back to our instincts again. While food and environment have changed, the urge to choose our food by the eye has remained, and buyers of confectionery feel that wintergreen creams must be pink and lime drops green, whatever our tongues may tell us to the contrary. Manufacturers of food must be psychologists as well as technicians, for of what use to the producer is the finest merchandise if it cannot be passed on to the consumer? The earlier producers of food were equally proficient in psychology and they did not let regard for the consumer stand between them and a profit. Any color, animal, vegetable or mineral, was all right with them, provided only that it gave the product the appearance which made it sell. What difference did it make if the color was poisonous? "So little of it is used in the final product that it can't do any real harm." But it did, and there are authenticated cases of children who died from eating colored mineral poisons in the cheap candy of many years ago. Instances are also known of the use of poisonous vegetable colors and of some of the earlier aniline dyes, which are also extremely toxic. It is a curious thing, however, that most of the stigma due to the unscrupulous use of untested coloring matters has stuck to the coal-tar colors. If one analyzes the the unconsidered opinion of today, it is found that vegetable dyes as a class are thought harmless, while aniline dyes, also as a class, are considered dangerous for use in foods. Obviously this is not the case. If a suitable coal-tar color is chosen and carefully prepared to avoid contamination, it is just as innocuous as the purest vegetable dye, while a vegetable color that is improperly prepared (and vegetable colors go through the factory, too, just as much as do coal-tar dyes) may cause much trouble to the final consumer.

"Accepted" Colors

Artificial color in foods is not objectionable, provided that it does not conceal damage or inferiority or



that its use, such as the coloring of candy for decorative purposes, is sanctioned by general custom. The United States Department of Agriculture recognized this fact twenty-five years ago, when it set up the machinery for enforcing the Federal food and drugs act. The question of the use of coal-tar colors was given careful consideration and a study of the literature revealed that there were a number of these materials which were as wholesome as table salt, provided, of course, that they reached the consumer in a pure condition. Seven harmless dyes were selected as the basis of a list of permitted coal-tar colors, which could be used in food without any unfavorable result. The colors included a red, a scarlet, a pink, an orange, a yellow, a blue and a green, and it was believed that these colors and their various combinations would supply any shade for which there might be a popular demand. Since that time, however, for one reason or another, eight new colors have been added to the list, which now comprises fifteen dyes. The list appears below. The numbers preceding the names are references to the Colour Index, which contains a complete description of all well known dyes. It will be observed that certain of the colors given in the list have no Colour Index number. This is due to the fact that they were produced especially for use in foods and have not been included in the latest edition of this volume. The dates on which the colors were placed on the permitted list are also given.

Red Shades:

- 80—Ponceau 3R, 1907.
- 184—Amaranth, 1907.
- 773—Erythrosine, 1907.
- Ponceau SX, 1929.

Orange Shade:

- 150—Orange I, 1907.

Yellow Shades:

- 10—Naphthol Yellow S, 1907.
- 640—Tartrazine, 1916.
- 22—Yellow AB, 1918.
- 61—Yellow OB, 1918.
- Sunset Yellow FCF, 1929.

Green Shades:

- 666—Guinea Green B, 1922.
- 670—Light Green SF Yellowish, 1907.
- Fast Green FCF, 1927.

Blue Shades:

- 1180—Indigotine, 1907.
- Brilliant Blue FCF, 1929.

Guaranteed Purity

Obviously, the establishment of a

list of permitted food colors means nothing unless steps are taken to insure these colors reaching the public in a pure form. There are three ways in which any color, vegetable or aniline, may be poisonous. The dye may be poisonous itself; it may contain harmful subsidiary dyes formed in the process of manufacture; or certain inorganic impurities, such as arsenic or lead, may be present as the result of carelessness in manufacture. If a dye is found on the permitted list, it is safe to conclude that the first of these three alternatives has been disposed of, but continuous vigilance is the only insurance against the inclusion of impurities of the two latter classes. With the establishment of the permitted list, it was therefore necessary to make arrangements by which the public might be assured of a supply of pure dyes and the first step was the drawing of specifications outlining the maximum amount of impurities of all classes that would be permitted in pure food colors. For safety's sake, these maxima were set very low.

The Color Certification Laboratory was then established for the testing of food colors to make sure that all dyes guaranteed by the Government should be of the highest purity. Every manufacturer who wishes to obtain a Government certificate is required to send in affidavits dealing with the processes of manufacture and the analytical results, along with a true sample of each batch of color he wishes to submit for certification. All his analytical figures are checked in the laboratory and the batch is approved if the conditions of certification are met. A lot number is then issued, as well as a certificate stating that the batch certified under that lot number has passed the test. Colors which have met all specifications may be sold as Certified Food Colors.

When Is a Color "Certified?"

It is plain that the Government certificate is of no value unless precautions are taken to see that the colors reach the ultimate consumer in their original form. The strictest regulations are therefore necessary

to avoid contamination of the guaranteed material and a certified color ceases to be a certified color for purposes of sale as soon as the original seal on the package is broken. Food colors are certified under three heads, primary colors, repacks, and mixtures. The primary colors are the dyes as originally manufactured. Repacks are, in general, these same dyes purchased from the original manufacturer in bulk and repacked in smaller containers for sale to the public. Because of the breaking of the original seal which such a procedure entails, any dealer wishing to resell his product as a certified color must submit a batch for recertification, so that its purity may be insured. Color fashions change in confectionery as they do in the textile business, and the range of shades provided by the primary colors on the permitted list is usually not sufficient for the needs of the trade. It may, therefore, be necessary to make mixtures of two or more of the primary colors to secure additional shades. Obviously, a package seal must also be broken for this purpose, and so mixtures must be recertified under careful regulation.

It would be most unusual if the regulations and analytical limits as first fixed had stood the test of time. Knowledge is gained by experience in many lines and the color certification procedure has been no exception. Amendments to both the administrative and chemical features of color certification have been announced from time to time and have finally been established in a form which appears to be satisfactory to both manufacturer and consumer. These regulations and analytical methods may be obtained upon application to the Food and Drug Administration. The circular dealing with the regulations is known as Service and Regulatory Announcements, Food and Drug No. 3, while the bulletin covering analyses and specifications for the permitted dyes is known as Department Bulletin 1390.

Admitting "New" Colors

Some question may be raised as to the desirability of additions to the list of permitted colors and some discussion of the procedure necessary in such a case may well be in order. The first step is to show that the need for a new color exists, for it is felt that the permitted list

(Continued on Page 50)



Corn Syrup's Place in Candy

A MEETING of the Candy Executives and Associated Industries was held at 8:15 o'clock at 71 West 23rd Street, New York City, on Monday evening, May 25, 1931, Mr. W. H. Haug presiding.

Chairman Haug: Gentlemen: As you all know, the speaker tonight is Mr. Krno of the Corn Products Refining Company.

Mr. John Krno: You know you gave me an extensive topic to talk on for one evening. I will try to cover as much as possible without taking up too much time.

Corn syrup which today seems so indispensable to the confectioner is not an old product, especially if we take cane sugar with which it is usually used as a norm for measuring its age. The greatest age that we can ascribe to starch syrup would be about 120 years. Its initial discovery is generally accredited to Kirchoff, who in 1811, while conducting some experiments on porcelain, was looking for a binder other than gum arabic. Circumstances forced him to look for a substitute since, due to the upset political conditions in Europe at that time, he was unable to obtain this product. He experimented with starch. In order to avoid discolorization due to the high temperature that he had to use he was led to subject a suspension of potato starch in water to the action of sulfuric acid. By accident he allowed the action to continue for too long a time, for at the end of his experiment he found that instead of a gummy mass a sweetish syrup resulted. Experimenters quickly adopted this reaction to other starches, especially to maize starch. It may be considered strange by some that so important an extension of human knowledge should have been surrounded to such a degree by chance, but if one studies the history of our great scientific achievements he will find many analogous instances similar in this respect to the discovery of starch syrup.



By JOHN M. KRNO
Research Chemist, Corn
Products Refining Co.

Early Commercial Production

It was not until the year 1831 that this discovery had any particular effect in the United States. In that year S. Guthrie and a Captain Potter put up a factory at Sackett Harbor for the commercial production of a sugar syrup. They used

WHEN the officers and members of the Candy Executives and Allied Industries Club (an organization of men interested primarily in candy production) decided upon a series of educational lectures and discussions on various subjects pertaining to the technical and practical problems of candy production, THE MANUFACTURING CONFECTIONER suggested the idea of recording these informal talks verbatim, thus making them permanently available to the club members and to the industry at large.

It is expected that the questions and answers and discussion led by specialists in the various raw materials and candy factory processes, will prove valuable and stimulating.

This address by Mr. Krno, the second in this series, was delivered before the production men of the club on the evening of May 25, 1931.

potato starch as a parent substance and the production equaled 360 pounds per day of sugar syrup whose specific gravity equaled 1.5. This, however, did not prove a very great success. It was only in the year 1870 that corn syrup production had become large enough to be taken notice of by the Census of Manufactures. At that time two establishments were in existence which had a combined output of a little less than \$120,000 worth of goods per year. The industry, however, developed rapidly since then. In 1927 over 1,000,000,000 pounds of corn syrup were produced in both mixed and unmixed forms. During 1930 the candy industry alone used in the neighborhood of 450,000,000 pounds.

Corn syrup had a somewhat difficult road to travel before it came to the forefront in the candy industry. It suffered because it was considered merely as a cheap substitute for cane sugar and also because the general public, as well as the manufacturers, did not give credit to its essential healthful as well as practical qualities. Today it does not require any apologies. There was a time when confectioners considered it a secret if they made use of this product in their goods. They were afraid that if it became known generally that they were using it, their business would suffer. At present the confectioner who has any fear on this score is indeed a rarity. One reason for this change in viewpoint can be ascribed to the activity of the general medical profession in behalf of corn syrup and its essential ingredient dextrose. A great deal of the antagonism that first greeted this product on its introduction into the candy industry was removed by the constant favorable comments from the medical profession on its use as an essential ingredient in the diet of infants. Another factor was the constant improvement in the product as to uniformity and adaptation to the candy trade.

Converting Starch Into Corn Syrup

It would perhaps be of interest especially since, in discussing the composition and its relation to candy manufacturing we will have to refer to the effect of corn syrup processing conditions, to briefly and sketchily describe the process of preparing corn syrup from starch. The pure starch suspended in water making a heavy starch milk of about 22° Bé, is acidulated with a little muriatic acid. The amount that is used is only about half of the proportion found in the gastric juices of the stomach, in which the acid is absolutely a necessary ingredient for the proper digestion of food. The chemical action that takes place when this mixture is cooked under enough pressure to raise the temperature to about 280° F. is a hydrolytic one. One molecule of water is united to the starch. This molecule is then split into the simple components which we term dextrines, maltose and finally dextrose.

In a way corn syrup can be considered as a predigested food. This change from solid starch to the final components is very rapid. When about half of the starch has been resolved into the final products, the sugars, the pressure is released and the slight acidity that remains is neutralized with soda to arrest any further change. As a result of this neutralization common ordinary salt or sodium chloride is formed. This syrup goes through a purification process consisting of a passage through a centrifugal, press filtration, decolorization by passage over bone-black, and finally concentration under vacuum. This concentration takes place in two stages, the syrup being further purified and decolorized by passage over bone char in between the first and second concentration.

In the candy industry corn syrup has become practically an indispensable ingredient in nearly all classes of candy. It would be easier to name the exceptions where corn syrup is not used than to start enumerating its uses. It is an important ingredient in hard candy from the cheapest to the most expensive. It is an ingredient in creams whether these are high priced or low priced. Gum drops, caramels, marshmallows and nougats all contain corn syrup in varying amounts.

A Mysterious Product?

Consequently it is of the utmost

importance to the candy maker to have a complete understanding of the characteristics and the working qualities that this product has as far as present knowledge will allow. Although it has been in use in the candy industry for a good many years, corn syrup still remains to most manufacturers an exceedingly mysterious product. This is not strange, since actually its composition from a chemical standpoint is still a very much debatable question. For instance, it was only in 1903 that as a result of the work of E. W. Rolfe and his co-workers it was definitely established that the sugar, maltose, is a component of ordinary corn syrup. To this day the absolute amount of this sugar present is a subject of controversy.

It is true that chemists when they subject corn syrup to what is called an analysis obtained a very long list of figures which will usually include moisture, reducing sugars, dextrines, polarizing values, ash, acidity, hydrogen ion concentration, inverting power, color, protein, and so on *ad infinitum*. When the chemist wishes to be still more impressive he reports the reducing sugars as part maltose, part dextrose and even attempts to differentiate between the various dextrines. Of what value are these to the candy maker? Which of these analytical results give the user critical and vital information for his work?

In a way, the chemists cannot help themselves from giving a complicated analytical report since they are examining an extremely complex substance. They are not dealing here with a single, comparatively simple entity such as cane sugar. The product is a veritable myriad of substances, to be sure, closely related to each other, but yet at the extreme ends of the series there are compounds which when compared show tremendous differences in their chemical and physical characteristics.

The available analytical methods for the estimation of these component parts are comparatively few in number and most of these have serious faults from the standpoint of accuracy, rapidity of obtaining

results, and general adaptation to routine and practical usage. We have to make the best of our existing knowledge and determine its significance to the candy maker when applied to the making of the various candies of which this product is a part. One should not get the idea that the available information is valueless and unimportant. Quite the opposite is the case.

Corn Syrup's Effect Upon Sucrose Crystallization

What are the properties of corn syrup that have made it so valuable to the confectioner? The most important without a doubt is its effect as a whole on the crystallization of sucrose. It is the most powerful, most practical and at the same time most economical repressant of sucrose crystallization that the candy manufacturer could possibly use. This repressing effect is evident in the use of corn syrup in hard candy. It also comes into play in gum work and caramels. In fondants it is used to control the growth of the sugar crystal. Other typical confections could be mentioned as examples.

There are two factors that give corn syrup this unique control over the crystal formation of sucrose and, of course, to a greater or lesser degree over any other sugar present. The dextrines content is the principal element in this action. Chemistry explains the action of the dextrines on crystallization as being due to "the protective colloidal action" exerted by the dextrines. Milk products contain compounds that act similarly. Gelatin and albumen also possess this property. The starch in a gum piece also exerts colloidal action.

The classification of substances into colloids and crystalloids was first proposed by Graham in 1861. A crystalloid is a substance which, when in solution, exhibits an appreciable rate of diffusion and possesses the property of penetrating parchment paper membranes. Colloids on the other hand show no definite tendency toward diffusion, nor towards the penetration of membranes. An entire new division of chemistry has been built up based on Graham's initial work. Of course, our conceptions have undergone a change and we can now see that Graham's original differentiation does not hold in all cases. There are substances that are in between



his two divisions. Other classification systems proposed from time to time have had similar objections to contend with. An explanation of the protective action that these compounds possess is also subject to some dispute. Some chemists explain the action by suggesting that the protecting substances encircle the suspended particle or the crystal in solution in a homogeneous manner. Others have contended that some union or adsorption must exist. What we are absolutely certain of is that the dextrines have a powerful influence on the crystallizing tendencies of the various sugars from water solutions.

The reducing sugars, maltose and dextrose, also play a role in this crystallization control of sucrose by corn syrup. It may not be as important as that of the dextrines, yet it is just as definite. By their presence the total solubility of the mixture of sugars as a whole in the liquid phase is increased which, of course, leaves less sugar for crystallization. This is illustrated by a fondant, fudge or any partially grained confection. As is well known by the trade, the control of crystallization of cane sugar can be effected without taking recourse to the action of dextrines. Fondants can be made in which control is only dependent on invert sugar which is a mixture of two sugars, fructose and dextrose. The same is true of after-dinner mints in which control rests on invert sugar or dextrose alone. The presence of these sugars, maltose and dextrose, from the corn syrup causes sucrose when it does crystallize to form smaller crystals which imparts smoothness to the confection.

Viscosity

The dextrines in the corn syrup make their presence evident by the relatively high viscosity, or perhaps it is better to use the term plasticity, that corn syrup possesses. The candy maker will often say that in order to get "body" in his batch he adds corn syrup. If the dextrine content should by chance be below normal he has been known to complain that the corn syrup lacks "body." Before he makes the comparison, however, he should make sure that the comparison is made on the same basis. Moisture content and the temperature at which the comparison is made directly affect the body of corn syrup. What we are interested in at the present is that the syrup increases the viscosity

of any batch of which it is an ingredient and this increase among other things functions in such a way as to repress sucrose crystallization and to modify the crystal form when this does result. This effect is more marked in hard candy manufacture. This is also a factor, although in less degree in such confections as gums, jellies and caramels. This property of giving body to the confection allows the candy to retain its shape more easily and in the case of hard candies this is especially noticeable at higher temperatures. A fairly lengthy discussion could be developed on the possible effects on production of the various candies mentioned that would result from a variation of the viscosity of a particular batch due to a change in the amount of corn syrup present or perhaps on very rare occasions to a fluctuation in the corn syrup itself.

The above discussion indicates that the total dextrine content and its counter part, the amount of reducing sugars on dry basis, are of extreme importance to the confectioner. Since the methods for determining the total dextrine content are not easily adaptable to routine determination and because these methods are not of extreme accuracy, the chemist has been accustomed to center his attention on the reducing sugar content of the syrup for a control of both. The various modifications of the Fehling determination of these sugars are open to a smaller number of objections than those dealing with the estimation of dextrines.

The Reducing Sugar Content

The corn products industry borrowed a term from the cane sugar industry for the designation of this reducing sugar content figured as dextrose. When reported on dry basis this value is referred to as the "purity" of the syrup. This proved a somewhat unfortunate choice since it was immediately confused with cleanliness. When anyone mentions that a certain syrup has a "lower purity" he is not indicating that it is less clean or has a higher percentage of impurities.

The corn syrup is most used

amongst confectioners has a purity which varies between 41.0 and 44.0 per cent. This means that on dry basis the approximate dextrine content will be from 56 to 59 per cent. Why is the corn syrup of commerce made so as to show this purity? Why is it not higher or lower? The reason is that it is the best compromise available. There are comparatively few candy factories which produce only one type of goods. A great portion of them produce a dozen or more basically different confections. Suppose a confectioner specialized in a marshmallow, hard candy and a cream. It is conceivable that he would prefer a syrup of different purity for each. Naturally he would have to handle three syrups instead of one. That would add to his economic burden. The corn syrup manufacturer would be in as bad a position. It would be next to impossible not to mix the syrups to some extent if they were all made at the same plant. His production would be hampered which necessarily would have to be reflected in an adverse economical way. Hence the necessity for a compromise between the user and the manufacturer economically advantageous to both.

Acidity Determination

Another group of figures that the chemist can obtain on corn syrup and which are of importance to the candy maker are the acidity, usually reported as hydrochloric with phenolphthalein as the indicator, the hydrogen ion concentration and the inverting power. The hydrogen ion concentration has been replaced by a logarithmic expression first proposed by Sorenson and denoted by the mysterious appearing term pH. The inverting power of corn syrup on sucrose and to some extent both the color of the original syrup and what is called the "ageing property" of corn syrup hinge on the pH.

Before the term "acidity" had been split up into two parts, "acid quantity" and "acid intensity," the chemist determined it by titration, which is a closely governed neutralization, using the chemical phenolphthalein as an indicator and calculating it as hydrochloric. Hydrochloric acid was used as a base of calculation because it was the acid with which the syrup is made from starch. We know now that this choice of an indicator or "measuring stick" for the acidity estimation was not the best from the standpoint of absolute truth. Its change of color upon



which the measurement depends occurs at a point that is far beyond theoretical neutrality. This means that for a corn syrup to be actually considered neutral according to such standards it has to be really alkaline. If the titrated acidity is of interest why not utilize an indicator that will give us a truer picture? Brom-thymol blue seems far more ideal since its color change occurs very nearly at theoretical neutrality. This value of total acidity, or let us say, acid quantity gives at best an imperfect story of the action of the mineral and acid substances present in corn syrup when it is an ingredient of a candy batch.

Prior to the introduction of pH into the general analysis of the candy materials it was known that two corn syrups could be produced having identical acidities when these were determined with the aid of a single indicator such as phenolphthalein, yet the syrups inverted widely differing amounts of sucrose. The syrups with the higher inverting power could not be used for hard candy whereas the other corn syrup was ideal. The determination of the pH values of the syrup, showed a large difference. The pH of the highly inverting syrup indicated that the intensity of the acids present was greater than in the other syrup. Ostwald had determined the inverting powers of various acids. A study of this table will convince anyone about the importance of this acid intensity factor.

He placed the inverting power of hydrochloric acid at 100. On that basis phosphoric acid would have an inverting power of 6.21. Citric would be at 1.72 and acetic, 0.40. Suppose that the acidity in the high inverting syrup discussed above consisted chiefly of the highly inverting hydrochloric, and in the other syrup it consisted chiefly of acetic, would not that explain fully their marked difference in behavior?

Buffer Action Explained

Clark in his book on "The Determination of Hydrogen Ions" gives a very good explanation of a phenomenon that is closely allied with and at times tremendously affects the pH of any given solution such as corn syrup. This phenomenon has been termed buffer action. By buffer action is meant the resistance to change of pH by a solution when it is forced to lose or gain in either its acid or alkali character. This

power to resist change inherent in some solutions while reacting was described by Fernbach and Huber in 1900 while studying the influence of phosphate solutions on diastase. It can be strikingly demonstrated by adding to a liter of absolutely pure water a quantity of acid, 1 cc. of 0.01 N HCl. Before adding the acid the water will show a pH of 7.0. After the addition the pH becomes 5.0. If on the other hand the same procedure is followed with a liter of standard beef infusion medium also having a pH of 7.0 before the addition of the acid, we will find no appreciable change from the original pH of 7.0. The difference in behavior of the two solutions is due to the presence of salts in the beef infusion which exercise a repressive action, or as the chemist will express it, "buffer" the acid.

The corn syrup that a confectioner may use contains buffer salts. The amount present will depend to some extent on the source. Corn syrup from the same factory may vary in the amount of these salts present. This variation is not tremendous. It is due to slightly varying conditions in the processing beyond human control with our present knowledge and equipment. Bone char used for the decolorization and purification of corn syrup consists of a large proportion of calcium salts in phosphate form. The amount of these going into solution as the corn syrup is passed over the char cannot be regulated absolutely. It should be remembered that the presence of these salts is not detrimental from the viewpoint of the confectioner. They, in general, slow down the action of the acid character.

The ash content of the average corn syrup will be about 0.30. The great bulk of this will consist of sodium chloride, common table salt, resulting from the neutralization of the remaining HCl from the starch conversion with sodium carbonate. About 80 per cent and even more of the ash content is in that form. About 3 to 4 per cent of the ash will be in phosphate form. From

10 to 12 per cent of the ash will be present as lime salts. Sulphates and other elements are present in small amounts. The character of this ash is also influenced by the mineral content of the water used in the manufacture of the corn syrup.

Speeds of Inversion

The term pH gives us the quantity of hydrogen ions which are the active agents of inversion of sucrose. A candy maker should not fall into the error of considering the pH of a corn syrup as an infallible measure of a syrup's inverting power. Two corn syrups can indicate the same pH and yet invert different amounts of sucrose. The amounts of actual H ions present may be considered the same in both. Why are different amounts of sucrose inverted if all other conditions are the same? The answer is that their rate of action or speed varies. The ions in one syrup are more "mobile" than in the other. The speed of action of H ions can be affected by the presence of a certain salt. They can be either slowed down or speeded up. In one of our hypothetical corn syrups we may have a salt present that tends to slow down the speed of the action of the H ions so that a smaller amount of sucrose is inverted than in the other syrup which does not have such a salt present.

All this indicates that just as the total acidity value was insufficient and incomplete in judging the behavior of a corn syrup towards the inversion of sucrose, just so the pH, although it aids materially in judging, is far from infallibility and absolute reliance on it may lead to error. The chemist in order to complete his information concerning the behavior of a particular corn syrup towards sucrose has to fall back on a carefully standardized, practical test of the inverting power of the syrup. What is done is that a small hard candy batch of definite corn syrup—cane sugar proportion is made under standardized and carefully set conditions, and the amount of invert sugar produced by the operation is then determined. This is used as a control, routine determination on all corn syrup entering the candy industry.

The candy maker as a rule does not wish his corn syrup to have any pronounced inverting power. Certainly in hardy candy manufacture the nearer to zero that it is the better he likes it. Then if the corn syrup has an appreciable inverting



CORN SYRUP'S PLACE IN CANDY

power it introduces a variable in his candy kettle over which he has no control unless he adjusts the pH of every batch of candy throughout its processing. This cannot always be done easily. And even if it can, how many candy makers will avail themselves of this? When inversion is required, he has more efficient inverting agents at his command than dependence on the inverting power of the syrup. If invert sugar is a necessary ingredient in some confection the candy maker obtains better results in the majority of cases when he adds it as such at the proper point than to depend on its haphazard production by the corn syrup. Consequently the candy maker should welcome a syrup which has as low an inverting power as it is practical to produce provided this does not render it subject to criticism from another viewpoint and that is—its so-called ageing qualities. These are adversely affected by increasing neutralization and pH. Hence again a compromise is made. It has been found that under present manufacturing conditions prevalent in the corn products industry a pH of 5.0 is found generally suitable if it is coupled with uniform and low inverting power over sucrose.

I have not gone into some of the other topics dealing with corn syrup for fear of taking too much time. We could discuss ageing qualities and color production, and I am perfectly willing if anyone has any questions along this line, to answer them.

Questions and Answers

Question: Have you determined which type of salts may speed up inversion?

Mr. Krno: An excess of sodium acetate added to a solution of acetic acid will depress the ionization to 1/40 of what it was normally and cut down the ion mobility. Take a nitric acid solution to which potassium nitrate has been added. This will speed up the action of the nitric acid.

Question: Would you care to say anything on what you mean by mixed and unmixed syrups?

Mr. Krno: Unmixed syrups are what we supply the confectionery trade. Any table syrup which contains probably a mixture of corn syrup, molasses, and cane sugar, is called a mixed syrup.

Question: Would you care to discuss hard candy? Why is it that in order to make hard candy successfully we should have any corn syrup present and more or less what percentage should be used?

Mr. Krno: I can tell you what amount I have found most generally used. I found 20 to 30 per cent. Some use as high as 50 per cent.

I know that there are candy makers who still prefer to have part invert and part corn syrup in their hard candy, but they are becoming fewer and fewer and are getting away from inversion more and more. I think that the average amount that is used is about 30 per cent. Of course, you have candies such as all-day suckers—they will contain about 40 per cent. It also depends upon the time of the year. The amounts vary with the time of the year.

Another thing, of course, that helps in hard candy manufacturing is the introduction of vacuum machinery and the reduction of the temperatures at which you are boiling. Vacuum machinery tends to lessen the danger of uncontrolled inversion and excessive discolorization, thus allowing the use of a greater amount of corn syrup.

Question: I was trying to get you to tell us if it was used primarily because of the economic saving or for another reason.

Mr. Krno: Doesn't it make a better article by using it? If you use all cane sugar, your candy will crystallize unless you invert.

Question: You have to prevent the crystallization by the use of cream of tartar?

Mr. Krno: That is what I mean. If you add cream of tartar, you are really taking advantage of the property of invert sugar.

Question: Then we are getting a better article when we use corn syrup than we could by cooking sucrose alone and inverting?

Mr. Krno: I believe you do for this reason: Invert sugar is considered more hygroscopic, that is, it picks up more moisture from the atmosphere than either corn syrup or cane sugar. Consequently, if you

cut down on your invert sugar in favor of a properly neutralized corn syrup a dryer candy results. Of course, you know you are going to get a little different texture. If you get too much corn syrup in a hard candy, you get a tough piece. You can see it in the break. It doesn't snap. In the manufacture of hard candy, if you use a syrup of lower purity, you can get a dryer, harder candy than you can if you use a corn syrup of higher purity. By that I mean, a corn syrup of lower dextrine content. But the drawback is that if you use a lower purity corn syrup for the making of hard candy, you may be able to taste that it has a flat or even a faintly starchy taste.

Very often, I have been asked to recommend a syrup that would be better for obtaining a dry hard candy and I have answered "yes, you can get a dryer hard candy, but it is at the expense of taste. If you can stand that difference in taste, well and good." I have known of people who have tried actual soluble starch, say, a per cent or two, in their hard candy to give it more body to stand up in the summer time.

Of course, you must realize that invert sugar consists of fructose, which is very sweet and dextrose. I have heard it explained why invert sugar was used in a certain type of hard candy. The reason was, they wanted the invert sugar to counterbalance the lowering of the sweetness by the corn syrup and at the same time to give a smoother effect on the throat after dissolving in the mouth. I believe that generally in hard candy, especially in the summer time, the man that can keep down his inversion is going to have less grief from stickiness. If the candy is slightly hygroscopic, it is going to pick up moisture, and the slightest amounts of moisture will kill your gloss. That presupposes a corn syrup that will not act as an inverting agent.

Question: You mention 30 per cent of corn syrup in hard candy. Why do you mention 30 per cent? Why shouldn't it be 35 per cent or 40 per cent?

Mr. Krno: Because when I said 20 to 30 per cent, I interpreted the question to mean the lowest percentage you could use to practically repress crystallization of the sucrose. I believe that is what was meant.

Question: There are quite a number of manufacturers who are using

(Continued on Page 46)



Southern Jobbers Discuss COSTS

Keynote of Southern Wholesale Confectioners'

Convention at Atlanta Last Month

Clarence Morgan of Asheville, President

WITH the slogan, "Sell Better Candy at a Profit" ringing in their ears, delegates to the eleventh annual convention of the Southern Wholesale Confectioners' Association dispersed from Atlanta, Ga., on July 17, following two days of business sessions which were pronounced the most successful in the history of the organization.

Renewed hope for jobbers was given in the convention, which confined itself in spirit to discovering what the jobbers could do to help themselves in place of airing grudges against the manufacturers and salesmen.

Clarence E. Morgan, of Morgan Brothers Company, Asheville, N. C., was elected president of the Association, succeeding Samuel Helburn, of Helburn Candy Company, Montgomery, Ala. Morgan served his year as vice-president of the organization. J. F. Fiske, of Hollingsworth Candy Company, Augusta, Ga., was named vice-president; W. M. Wallace, president of Brower Candy Company, Atlanta, was re-elected treasurer; and Clarence M. McMillan was renamed secretary.

The new board of directors elected is composed of Howard Hanby, Crescent Candy Company, Wilming-

ton, N. C.; L. V. Jones, Cosby-Templeton Company, Greenville, S. C.; S. M. Janney, Janney-Marshall Company, Fredericksburg, Va.; Samuel Toole, of Toole Candy Company, Knoxville, Tenn.; James Turner, Turner-Taylor Company, Tampa, Fla.; Herman Beck, Beck Candy & Grocery Company, Birmingham, Ala.; B. W. Biedenharn, Ouchita Candy Company, Monroe, La.; and H. H. Biedenharn, Biedenharn Candy Company, Vicksburg, Miss.

Ansley Hotel was headquarters for the convention and was the scene of the four business sessions, two luncheon meetings, and the annual banquet. Although there was no regular candy show, many salesmen took advantage of the gathering to exhibit their lines in the hotel sample rooms to good effect.

The convention entertained invitations from Biloxi, Miss., Birmingham, Ala., Asheville, N. C., and Memphis, Tenn., for conclave cities in 1932. The place for the next convention will be decided later in the year by the board of directors.

Sam D. Fried, of Metro Chocolate Company, Brooklyn, N. Y., set the ball rolling when he offered at the first session his slogan to "Sell Good Candy for a Profit." From

then on this was the central idea of the conclave, being reiterated and embellished by other speakers and in the discussions. Jack Davenport, candy sales manager for Davison-Paxon Company, brought in this idea when he urged candy dealers and jobbers to "know how they are going to sell an article before they buy."

Problems of credit extension were brought into the limelight of Thursday's session, which was led by F. R. Warburton, credit manager of the Graybar Electric Company here.

Economic change and not chains is the cause of irritation to candy jobbers and the corner grocer, according to M. H. Todd, buyer for Rogers, Inc., chain grocery here. He told the delegates there was plenty of room for chains and jobbers if the jobbers would quit grumbling about the inroads of the chain companies and set out to adjust themselves to the economic change which created them. He pointed out that chain concerns cannot afford to purchase through jobbers, but warned manufacturers against selling all their output to one concern. Any manufacturer who sells more than 40 per cent of his product to one concern is courting disaster, he said.

National Confectionery Salesmen — Windsor

Sam Reese of Rockwood's Elected President

Sam Williams, with Runkel Brothers, Vice President

THE thirty-third convention of the N. C. S. A., an organization of over 600 manufacturers' salesmen to the wholesale candy trade, went into high at Windsor, Canada, July 16th, and closed with extraordinary honors to the entertainment committee, of which Warren Durgin was chairman.

Charles Deas, Jr., retiring president, gave a constructive address, reviewing conditions from the salesman's point of view. Sam Reese, with Rockwoods, was elected president following an eloquent presentation speech by Ted Clark, who "panned" his friend Sam in a way that brought forth a unanimous vote.

Sam Williams was elected vice-presi-

dent; Henry Michaels re-elected secretary-treasurer.

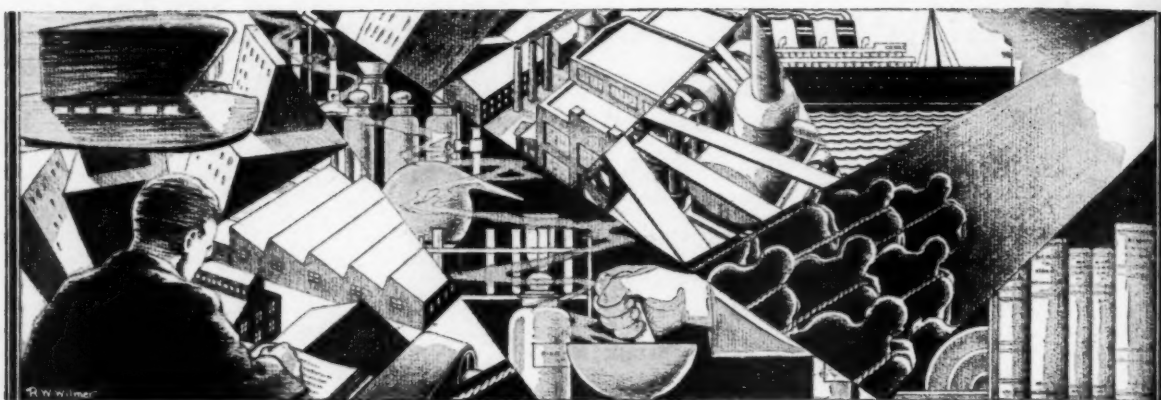
The new board of directors: Charles A. Deas, Jr., George Dunlap, I. G. Diamond, Warren B. Durgin, D. J. Fitzpatrick and George M. Farr.

Mr. Deas presented a memorial to the association in the form of a poem, "The Vacant Chair," inscribed on parchment, to be retained by the president.

The Tuesday evening vaudeville was a scream. Mr. Cecil of the Cecil Chocolate Co., Detroit, the official magician-comedian of the candy industry, pulled some tragedies on a few co-operating members with eggs and water that left a cleaning bill in their wake.

The banquet Wednesday evening was another inspiration in more ways than one. Miss Corine Muir again directed the festivities. There was wine, women and song in wholesome combination.

The luncheon at the Detroit Yacht Club, through courtesy of Mr. G. F. Barkenowitz, a candy jobber of Detroit, was a most delightful affair. (See illustration, August issue of THE CONFECTIONERY BUYER, page 43.) The trip to the Ford Motor Co. plant and to the Zoo added a balance to the entertainment program. A few jobbers shared the festivities: L. L. Colton of Lansing; Harry Udasin and Henry Roth of Udasin Bros., New York City; Joe Levy of Detroit; Breithart of Brooklyn.



Monthly Digest of CURRENT TECHNICAL LITERATURE

Chocolate Dragées



By Giuseppe Vallette. *Revue de la Chocolaterie, Confiserie, Biscuiterie, Confiturerie*, No. 57, p. 45; No. 58, p. 59.

THE author discusses the details of the manufacture of chocolate dragées as practiced in Europe. Centers of a great variety of types, such as liqueurs, preserved fruits, pistachio, caramel, toffee, almond paste, praline paste, brittles and various nuts, are used in Europe. Various precautions are required for centers of a soft consistency, such as treating with a gum solution or, in the case of preserved fruits, treating with a boiling sugar syrup, draining, and drying in powdered sugar prior to applying the chocolate. The best temperature for applying the chocolate coating in revolving cans is 64° to 68° F., and the temperature should be controlled within these limits.

The best practice in producing nut brittle centers is to heat the sugar without addition of any water and, as soon as the sugar is melted, mix with it the ground nuts (usually almonds or hazel nuts). Centers of a soft or delicate consistency may be treated with a 32° Baumé syrup containing 9 parts of sugar to 1 part of gum arabic. The centers are then dusted with a mixture of equal parts

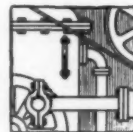
of powdered sugar and cocoa powder. This operation is repeated one or more times if necessary and the centers are then ready for application of chocolate in the revolving pans. The best temperature for the chocolate is 86° to 91° F., but it may vary within these limits, depending on the type of chocolate coating used, the temperature of the centers and the temperature of the air.

There are a number of formulas in use for polishing the pieces after they have received the necessary chocolate coating. Good results are obtained by using a 30° Baumé syrup prepared from 3 parts by weight of sugar caramel to 7 parts of gum arabic with addition of the necessary quantity of water. The cold dragées are placed in a revolving pan and are dusted lightly with powdered talc after which a little of the above solution is added and the pan revolved until the dragées are dry. This operation is repeated twice, the dusting with powdered talc being omitted in the last treatment. The time required for polishing is about ¼ hour. A polish is produced which remains permanent in even fairly humid atmospheres.

Instead of the syrup mentioned above, 45 parts of granulated sugar, 45 parts of 44° Baumé corn syrup and 10 parts of powdered gum arabic, with sufficient water to produce a syrup of 30° to 31° Baumé, may

be used, powdered talc being applied as before. In order to increase the resistance of the polish to atmospheric humidity the proportion of corn syrup should be reduced, for instance to the proportion of 60 parts sugar, 25 parts of 44° Baumé corn syrup and 15 parts gum arabic. Gelatine can be substituted for gum arabic in the above formulas. The author discusses some novelties in which the centers of the dragées consist of fondant handled in various ways.

Candied Citrus Fruit Peels



By S. Blumenthal and L. Thuor, Shirley Laboratories. *The Fruit Products Journal*, vol. 10, p. 208.

THE canning of grapefruit in a large way has resulted in an unusual accumulation of peels, practically all of which are now utilized. The peels are preserved until ready for the candying process by placing them in large tanks and covering them with brine to which some alum and sodium metabisulphite are added to prevent mold growth and fermentation.

The peel is processed by covering with water, boiling 30 minutes in steam vats or kettles and draining. This removes salt, alum and bisul-

bite and reduces the bitterness of the peel. The undesired bitter portion can then be removed by a revolving grater. After this operation another 30 minutes cook should result in a satisfactory mild bitter peel ready for candying. The use of alkaline substances to assist in overcoming the inherent bitterness is not advisable. Darkening of the peel sets in rapidly and only the addition of acid will restore the natural color.

In candying the peel the essence of the method is to use cane sugar, a small percentage of corn syrup and about 0.1% of tartaric acid. The total sugar solids in the candied peel should not exceed 80%; a fair average would be about 75%. This percentage of sugars will prevent mold and fermentation troubles to a large extent.

The peel is first covered with a 25° Baumé cane sugar syrup and is boiled very slowly for one hour. The peel is then boiled in syrup of gradually increasing density until a Baumé of 34° is reached, using cane sugar only. From this point on the density of the syrup is increased by adding corn syrup until a Baumé of 39° is reached (2 additional boilings). Over-cooking causes hard peels.

There is a growing supply of orange peels due to recent developments in the extraction of juice at the orange groves. Except for a few slight changes orange peels are best candied in the same way as grapefruit peel. Orange peel requires less time for processing than the latter. In candying lemon peel the bitterness of the peel may be greatly reduced by processing with warm water to which a small amount of milk of lime has been added. In all other respects lemon peel should be candied in the same way as orange peel.

Use of Soya Flour in Confectionery and Other Food Products

Food Manufacture,
vol. 6, p. 118.

FLOUR made by the Berczeller process from soya beans contains about 20% fat and 44% protein and may be kept for long periods without becoming rancid. It is finding numerous uses in foods, for instance bread, cakes, custards, blancmanges, puddings, ice cream,

cereal products, in chocolate and cocoa mixtures, and in egg substitutes. In cakes, for instance, the flour increases retention of moisture and retards drying and economies are effected by the reduced amount of fats, eggs and milk required.

(It has been claimed that soya flour improves the consistency and keeping quality of certain kinds of candy, such as caramels, and that its use makes candy a "balanced food," since the fat and protein supplement the high carbohydrate content of most candies and give a better ratio between these primary nutritive constituents.—Editor)

Moisture-Proof Transparent Cellulose Wrappings



By Edward Thompson. *Modern Packaging*, vol. 4, p. 90.

IN an investigation of the moisture-resistant properties of various wrapping materials the permeability of "moisture-proof" transparent cellulose was 270, and the corresponding values for waxed brown paper, waxed glassine paper and an average of 15 waxed papers were 400, 530 and 22,500 respectively, these figures representing the number of milligrams of atmospheric moisture which passed through each square inch of these materials in an hour at a temperature of 100° F. The transparent moisture-proof cellulose undergoes much less variation in length than the ordinary cellulose wrapping when exposed to atmospheres of varying degrees of humidity.

A variation of 8% in length (the maximum expansion in cellulose wrapping of the ordinary type) has an important effect when the wrapping is placed around a candy package. If the wrapping is put on the box when it is at its minimum length (when exposed to a dry atmosphere) and is afterward exposed to a humid atmosphere, it will become "saggy" and crinkled. Conversely, if it is put on in a damp atmosphere it will contract in the drier air and become so taught that it will crinkle the box. It is therefore essential, when using ordinary transparent wrapping for boxes, to expose it first to an atmosphere which will

bring it midway between its maximum and minimum lengths.

When using the moisture-proof variety for the wrapping of chocolate candy it is necessary to have a perfectly tight seal. To ensure a perfect seal, the type of fold should be studied and a special adhesive used.

Market Studies Bring Packaging Inspiration



By Waldon Fawcett. *Modern Packaging*, vol. 4, p. 45.

THE average packager of commodities, no more than the average package manufacturer, has the time or resources to conduct "straw votes" of package buyers or study the reactions of package handlers, display men and others who make contact with packages all the way down the line to the eventual recipient of the package. If package inspiration is to derive its best from current opinion and foresight on the changing habits of a restless world, agencies must be found to collect and report the facts. Some few of the fact-hunting institutions which have been set up to do the work of diagnosis for packaging circles are within the boundaries of the trade. A much larger number are outside, in the broad domain of commerce and industry.

An outstanding example of packaging research is the program carried on over a period of years by the Paperboard Industries Association composed of manufacturers of paperboard, corrugated and solid fiber boxes and folding boxes. Considerable research has been conducted by the National Paper Box Manufacturers' Association and the Philadelphia Paper Box Manufacturers' Association. The American Waxed Paper Association is making an investigation of competitive practices for waxed tissues, waxed glassine, waxed confectionery papers, and other similar packaging materials. Devising of new uses for transparent wrappings has been largely the work of individual manufacturers.

The research work of the U. S. Forest Products Laboratory at Madison, Wis., has application not

only to wooden packages, but also to all classes of pulp products. The U. S. Bureau of Standards tests many materials purchased by the Federal Government and, since Uncle Sam is himself a packager on no small scale, the tests made and specifications formulated are of interest to industry. The information obtained by the Bureau's Division of Simplified Practice relative to package simplification is also of much value to the trade. The division of Transportation of the Department of Commerce is a clearing house for all manner of information on the packaging and transportation of commodities.

The depressed business conditions of the past two years have put a spur to original research in the field of packaging and, especially, to research under trade association auspices. Facing reduced profits and keener competition, packagers in many lines have cast about for the least expensive containers that would afford safe transportation for their products. Research agencies have been called upon, as never before, for savings-in-cost demonstrations. On the other hand, a considerable proportion of packagers in many lines have sought refuge from price competition in more artistic and more colorful packages.

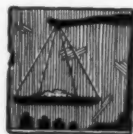
Photo-Electric Cell Controls Package Wrapping

Food Industries,
vol. 3, p. 171.

PACKAGED food products are now being covered with printed protective wrappings in such a manner that printed statements on the wrapper appear uniformly and accurately in desired locations as if the container, and not the wrapper, were printed. Each portion of the printed paper required to wrap an individual package has a small printed spot which serves as a regulator for coordinating all operations of the wrapping machine. As this spot passes between the photo-electric cell and a source of light it causes a sending forth of electrical impulses that set in motion the wrapping machine, and the container is wrapped in such a way that the printed designs and statements on the wrapper are located consistently on the desired part of the package. Six ounce packages of a cereal product are

wrapped in this way at the rate of 72 packages per minute.

Rational Methods of Scoring Food Products



By Washington
Platt. *Food Industries*, vol. 3, p. 108.

"EATING quality" of food products is of the first importance, but can never be "measured" in the usual meaning of the term. However, such essential qualities as taste, odor and texture can be very accurately determined by the process of scoring when this is carried out correctly. The author describes a method of scoring foods for quality that should be of considerable value to superintendents, sales and production managers and other executives.

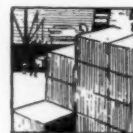
Score cards of different types are described and the various precautions to be observed in scoring various foods are discussed in detail. It is important to use a scoring method that will eliminate the unconscious influence of the judges, so far as possible. A useful practice is to include in the series of samples one or more sets of duplicates, these being unknown to the judges and serving as a check on their discrimination. When the number of samples is small enough, there is an advantage in submitting all samples in duplicate for judging.

Some people have marked idiosyncracies in which their taste is widely different from that of the general public. It is important that this be detected and that such persons be excluded as judges. The number of judges is important and depends largely on the object of the test. Frequently it is desirable to submit samples to three judges for preliminary conclusions and to five or even ten judges for more mature conclusions.

The general grading designations should be simple, such as "perfect, excellent, good, fair, poor, bad," the various points of quality being rated under each of these designations. For many purposes it is desirable that the net result be expressed in figures and a system of numerical scoring is described in which the various designations of quality are

expressed in figures representing a certain percentage of 100 or "perfect."

Science Vitalizes Cashew Nut Production



By Thomas M. Rec-
tor. *Food Industries*,
vol. 3, p. 150.

AS late as 1923, the cashew nut was known to importers as one of the most risky of all foods to import and distribute, and importations did not total more than 100,000 lbs. per year. Since then, consumption of cashew nuts in the United States has practically doubled each year and in 1930 was more than 5,000,000 lbs. This increase is due to elimination of insect infestation by a method of packing which consists essentially in removing the air from a flexible walled metal container filled with the nuts, and replacing the air with a suitable gas, usually carbon dioxide, partly soluble in the oil of the nuts. Studies were then made of the native methods of shelling and blanching, and methods were evolved for improving the finished product in color and uniformity.

The nuts grow in a peculiar fashion, attached to the blossom end of a fruit about the size of a large quince. The chemical composition of the cashew nut with respect to fat, protein and carbohydrate content is similar to that of the almond. The sweet, golden yellow oil, which is present in the kernel in the amount of about 50%, is very similar in chemical composition to olive oil, and would make a wonderful salad oil.

The process of roasting and salting involves cooking in refined coconut oil to 275° F. to 300° F. for about seven minutes, and the addition of about 3% of fine salt. Little equipment or experience is required and the salted nuts are a profitable item for candy manufacturers to add to their list. The broken grades of cashew nuts can be used as substitutes for the more expensive whole nuts in candy. A number of coated special cashew confections are enjoying increasing sales. It seems probable that before long the cashew nut will outrank in volume many of the better known quality nut meats.

Pineapple Processing and Canning in Hawaii



By Andrew Farrell. *Food Industries*, vol. 3, p. 144.

PINEAPPLES are trimmed to cylinders, ends sliced off and cores removed—all by machine—at the rate of 85 to 110 per minute. They are then trimmed and passed through a slicing machine. Very little of the pineapple is wasted. Sliced, tidbit and crushed pineapple are the principal products.

About one-half the weight goes into cans. The remaining one-half, consisting of shells, cores, trimmings and ends is shredded and pressed to extract the juice, which contains about 11% sugar and 1% citric acid. Much of the juice, after recovery of the citric acid, is concentrated to syrup and used in canning the fruit. The remainder is used for production of denatured alcohol and the resulting carbon dioxide is compressed for soda fountain use. Some of the pineapple cores are candied, but most of them are pressed for juice. The press cake is dried and used (as "pineapple bran") for feeding cattle and hogs.

Sugar Refinery in Porto Rico

The Porto Rico American Sugar Refinery, Inc., of Ponce, Porto Rico, expects to show a total output of 1,900,000 bags of refined sugar for the current year. Its 1931 output will be confined to 100-pound bags only.

Philippine Confectionery Market

THE Philippine confectionery market during 1930 suffered a material decline due to the unsatisfactory local economic conditions and to a period of sharp competition among small local manufacturers. Several foreign candy manufacturers started to operate on the Manila market last year, which precipitated price cutting at different times during the year. This led dealers in imported candies to be conservative in their purchases, according to reports, and sales of cheap hard candy imports were affected as a result. Imported box candy encountered a poorer demand, due to low purchasing power. The Christmas trade was below normal and several dealers were said to have suffered losses on some shipments. The small five-cent package candy experienced a fairly satisfactory demand and was probably the highest spot in the Philippine candy market.

—Department of Commerce Reports.

TRADE MARKS for Registration

THE following list of trade-marks published in the Patent Office Gazette for the past month, prior to registration, is reported to *The Manufacturing Confectioner Publishing Co.*, by Mason, Fenwick & Lawrence, Patent and Trade-Mark Lawyers, Woodward Building, Washington, D. C.

Manufacturers and dealers in candies, confectionery and baking products who feel that they would be damaged by the registration of any of these marks are permitted by law to file within thirty days after publication of the marks a formal notice of opposition.

SALLIE SWEETS and girl in colonial dress, for candy. Use claimed since February 4, 1931, by William B. Fundis, doing business as Sallie Sweets, Pittsburgh, Pa.

RILEY'S RUM & BUTTER FLAVOURED TOFFEE and picture of galleons, for rum and butter flavoured toffee. Use claimed since October 30, 1930, by Riley Brothers (Halifax), Ltd., Halifax, England.

MOTHER PARKER'S and representation of woman, for candy. Use claimed since March 28, 1931, by The Spear Folks, Portland, Me.

ZOO-CONES and animal design, for ice cream cones. Use claimed since January 1, 1931, by McLaren-Consolidated Cone Corporation, Dayton, Ohio.

BIG 5, for shelled nuts, etc. Use claimed since July 15, 1930, by Ervin E. Waulters, doing business as Monument Nut Co., Ballston, Va.

HALF MOON, for frozen confections. Use claimed since October 15, 1930, by Delbert Ferguson, Des Moines, Iowa.

FRESHIDOR, The Nunnaly Company, Atlanta, Ga., for all kinds of candies. Use claimed since May 6, 1931.

MINT JULEP, for candy tablets. Use claimed since May 8, 1931, by Elsa G. Mueller, doing business as The Mint-Julep Chewing Gum Company, Washington, D. C.

J. N. ADAM & CO., for candy. Use claimed since November 23, 1929, by J. N. Adam & Co., Buffalo, N. Y.

Representation of two animated bottles, for candy. Use claimed since April, 1930, by Schutter-Johnson Candy Company, Inc., Chicago, Ill.

CAMILLAS, for candy. Use claimed since March, 1931, by Frank G. Shattuck Company, doing business as Schraft's Stores, New York, N. Y.

FRENCH MAID FUDGE "SUNDAE'S BEST DRESS", for fudge powders. Use claimed since December 17, 1930, by French Maid Cocolat Company, Inc., New York, N. Y.

FISHER'S OH BOY! TRYABAG and peanut design, for salted nuts. Use claimed since June 1, 1927, by Samuel S. Fisher, St. Paul, Minn.

JOLLY GOOD, for candied and salted nuts, marshmallow cream. Use claimed since 1914 by The Newton Products Company, Cincinnati, Ohio.

CHOCOLATE CHOCO-WHEAT CHUNKS and design, for a sweetmeat composed of wheat interior with chocolate coating. Use claimed since April, 1930, by Meadowland Confections, London, England.

HUMP, THE CANDY BAR WITH THE HUMP, for candy bars. Use claimed since February 15, 1931, by David Plotke, doing business as Da-Lee Candy Co., Chicago, Ill.

SHORT & SWEET, for candy. Use claimed since October, 1929, by Samuel Zimetbaum, doing business as Trees Candy Co., Newark, N. J.

KISSES FROM THE HOLLYWOOD STARS, for candy. Use claimed since February 2, 1931, by Joshua J. Gorov, Los Angeles, Calif.

KREME PETS, for cake. Use claimed since January 9, 1931, by H. C. Brill Company, Inc., Newark, N. J.

KRAKS, for candy and candy tablets. Use claimed since February 10, 1929, by American Mint Corporation, New York.

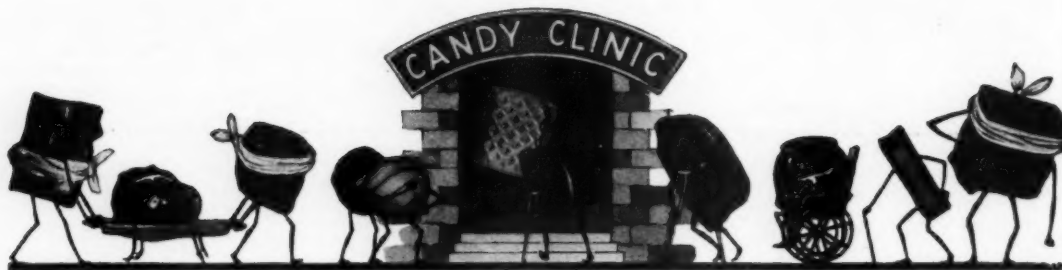
HEALTH ATOMS, for candy. Use claimed since November 1, 1930, by Celeste A. Liquori, New York, N. Y.



SINCE 1864—This is a twelve-page booklet recently issued by the Robert Gair Company of 420 Lexington avenue, New York City, describing the organization and manufacturing facilities of the company. Copies free on request.

EXECUTIVES AND BANKERS LOOK AT RESEARCH—This 24-page booklet issued by the Division of Engineering and Industrial Research of the National Research Council, 29 West 39th street, New York City, describes the tour conducted by that organization during October of last year for the purpose of studying and comparing the different types of research organizations and industrial research laboratories. Copies free on request.

THE SILVER LINING—This attractive 20-page booklet contains the fascinating story of the growth of the Imperial Candy Company of Seattle since its inception twenty-five years ago, as told by Mr. Richard Ramsey. It is a swift-moving and inspiring story. Copies may be had on request.



The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Each month he picks up at random a number of samples of representative candies. This month it is hard candies and summer goods; next month it will be summer packages and candies. Each sample represents a bona-fide purchase in the retail markets, so that any one of these samples may be yours.

This series of frank criticisms on well-known, branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of the M. C.

Hard Candies and Summer Goods

Code 8A 31

Hard Candy Lemons—8 ozs.—10c

(Purchased in a 5c and 10c store in Boston, Mass.)

Appearance of Package: Good. Transparent cellulose bag with store's seal.

Mould: Good.

Color: Good.

Taste: Good.

Gloss: Good.

Flavor: Good.

Remarks: These lemons are exceptionally good. Candy is of good quality and neatly put up.

Code 8B 31

Hard Candy Sticks—8 ozs.—10c

(Purchased in a 5c and 10c store in Boston, Mass.)

Appearance of Package: Good. 14 pieces; each stick wrapped in transparent cellulose and held together with a rubber band. Makes a large and attractive package for 10c.

Colors: Good.

Gloss: Good.

Stripes: Good.

Flavors: Good.

Condition of Candy: Very good.

Remarks: This is a very good 10c package and quite inexpensive for this type of goods.

Code 8C 31

Hard Candy Cuts— $\frac{1}{2}$ lb.—10c

(Purchased in a 5c and 10c store in Boston, Mass.)

Appearance of Package: Good. Trans-

parent cellulose bag with store's seal.

Color: Good.

Stripes: Good.

Flavor: Good.

Gloss: Sugared.

Remarks: This is a fine summer candy and is of good quality.

Code 8D 31

Hard Candy Twists— $2\frac{1}{4}$ ozs.—15c

(Purchased in a retail candy store in Wilkes-Barre, Pa.)

Appearance of Jar: Very good; oval shaped jar with vacuum top and gold seal. Jar contained small twist sticks; only three sticks broken.

Colors: Good.

Flavors: Good.

Workmanship: Good.

Assortment: Good.

Gloss: Good.

Remarks: The workmanship on these twists was exceptionally good. This class of goods is a slow producer. There can hardly be any profit to the manufacturer at the price of 15c if sold through a jobber.

Code 8E 31

Hard Candy Mints—10 pieces—5c

(Purchased in a railroad terminal in Harrisburg, Pa.)

Appearance of Package: Good. Transparent cellulose wrapper used. Printed in red and blue.

Contents: A white round hard candy piece. Flavored with peppermint; had a slight taste of menthol.

Flavor: Good.

Size of Pieces: Good.

Remarks: This is a good eating mint and well flavored.

Code 8F 31

Assorted Fruit Drops— $1\frac{3}{4}$ ozs.—5c

(Purchased in a general store in Lebanon, Pa.)

Appearance of Package: Good. Transparent cellulose bag with red seal.

Contents: Assorted fruit flavored drops with jelly centers.

Colors: Good.

Flavors: Good; a trifle too much acid used.

Gloss: Fair.

Jackets: Good.

Centers: Good.

Remarks: These filled drops are made on a plastic machine. They are somewhat different from the usual solid fruit drops sold in this type of package. Should prove to be a good 5c seller.

Code 8G 31

Licorice Stick Pops—1c each

(Purchased in a general store in Lebanon, Pa.)

Appearance of Pops: Good. This pop is made up the same as an ordinary lollipop except that it has a licorice stick instead of a wooden one.

Licorice: Flavor good but very tough.

Pop: Flavor fair; color good.

Remarks: This is a novel idea and it should prove to be a good 1c seller.

THE MANUFACTURING CONFECTIONER

Candy Clinic

Code 8H 31

Assorted Pops—2 ozs.—10c

(Purchased in a 5c and 10c store in New York City.)

Appearance of Package: Very good. This package is made of a printed board in the shape of a book. 10 pops are fastened to one side, making a very novel and unusual way to sell pops.

Colors: Good.

Flavors: Good.

Remarks: This package has been out for some time. When it made its debut it sold for 5c. Hardly any profit, if any, could be made at that price and that is why it now retails for 10c, no doubt.

Code 8I 31

Hard Candy Sticks—(No weight)—1c

(Purchased from a street peddler in Lancaster, Pa.)

Appearance of Stick: Good. Transparent cellulose wrapper used.

Color: Good.

Stripes: Good.

Flavor: Good.

Remarks: This is a good stick but a trifle small for a penny item.

Code 8J 31

Filled Candies—1 lb.—49c

(Purchased in a drug store in Boston, Mass.)

Appearance of Jar: Fair. Goods partly stuck together.

Moulds: Fair.

Gloss: Partly gone.

Colors: Fair.

Flavors: Fair.

Jacket: Too thick.

Centers: Fair. Not enough used.

Assortments for Shapes: Fair.

Remarks: This jar of filled goods is not up to standard. In fact, it is very crude. The goods had the appearance of not having been cooked properly. Centers were not right and jackets were entirely too thick.

Code 8K 31

Pops—5 pieces—5c

(Purchased in New York City.)

Appearance of Pops: Good. 5 pops are mounted through holes on a fan-shaped card, printed in red, blue and white.

Colors: Good.

Flavors: Good.

Remarks: For this type of goods the card idea is good.

Code 8L 31

Bridge Party Pops—8 pops—10c

(Purchased in a drug store in New York City.)

Appearance of Package: Unique and attractive for this type of candy. Eight wrapped pops in the shape of hearts, diamonds, spades and clubs inserted in a diamond-shaped red printed cardboard. The back of the card is printed as a bridge score card.

Colors: Good.

Shapes: Good.

Flavors: Good.

Remarks: This is a good 10c novelty number of pops.

Code 8M 31

Lemon Cuts—5¼ ozs.—25c

(Purchased in a drug store in Boston, Mass.)

Appearance of Jar: Good. Straight jar, bronze cap, vacuum sealed. Red square seal used.

Contents: A clear hard candy cut, lemon flavored.

Condition of Candy: Good.

Color: Good.

Flavor: Good.

Remarks: This is a good eating candy, but the jar is a little high priced at 25c.



Candy Clinic

Code 8N 31

Candy Bar—1¾ ozs.—5c

(Purchased in Lancaster, Pa.)

Appearance of Bar: Good. Transparent cellulose wrapper. This bar is made up as a slice, the center being white coconut paste with raisins and a jacket of caramel rolled in peanuts.

Texture: Good.**Taste:** Good.**Remarks:** This is a good eating bar.

Code 8O 31

Hard Candy Mints—16 pieces—5c

(Purchased in a retail candy store in New York City.)

Appearance of Package: Good. This package is neatly put up in a tray and wrapped in white printed transparent cellulose.

Mints—**Flavor:** Good.**Color:** Good.**Remarks:** This is a very good package of mint hard candy.

Code 8P 31

Cornucopia of Hard Candy—8 ozs.—25c

(Purchased at a fruit stand in New York City.)

Appearance of Package: Out of the ordinary for hard candy. This cornucopia is made of white bond paper printed in light blue and tied with red cord.

Contents: Assorted hard candy sticks, wrapped in wax paper.**Flavors:** Good.**Colors:** Good.**Remarks:** This is a novel hard candy package but high priced at 25c.

Code 8Q 31

Assorted Hard Candy—1 lb.—10c

(Purchased in a chain cigar store in Milwaukee, Wis.)

This hard candy was purchased in a chain store at 10c the pound bulk.

Appearance: Good.**Colors:** Good.**Centers:** About 50% had centers of chocolate and cream.**Flavors:** Fair; not enough used.**Stripes and Size of Pieces:** Good.**Assortment:** Good.

Remarks: It is impossible to sell this hard candy to the consumer at the price of 10c per pound and make a profit. The manufacturer is selling this hard candy at a loss. Ordinarily this type of candy retails at no less than 20c to 30c per pound.

Code 8R 31

Apple on the Stick—10c—Weight (no information)

(Purchased in Chicago, Ill.)

This piece is made up of hard candy. The center is pulled; a red clear jacket used on the outside. It is shaped like an apple with a stick inserted in one end. Wrapped in transparent cellulose.

Appearance of Piece: Good.**Shape:** Good.**Flavor:** Cinnamon; good.**Remarks:** Suggest some kind of weight label be used on the wrapper, also

manufacturer's name and address as, lacking this information, much trouble can result. This piece is not new but it is a good pop number, although slightly high priced at 10c.

Code 8S 31

Lolly Pop—Weight and price (no information)

(Purchased in Chicago, Ill.)

This piece is made of hard candy in the shape of a large pop, orange in color, with a black gum cat stuck on. Wrapped in transparent cellulose and tied with an orange ribbon.

Appearance of Pop: Good.**Flavor:** Good.

Remarks: This pop was entirely grained. Name of manufacturer and weight should appear somewhere on the piece.

Code 8T 31

Hard Candy Sticks Assorted—10c

(Purchased in Chicago, Ill.)

These sticks are made of pulled hard candy with stripes. Each piece wrapped in wax paper. A paper band is used to hold sticks together.

Appearance of Package: Good.**Flavors:** Good.**Colors:** Good.**Stripes:** Good.

Remarks: This is a good package of sticks and should be a good 10c seller.

Code 8U 31

Assorted Hard Candy—(No price) Sold in bulk

(Purchased in manufacturer's retail store in Springfield, Mass.)

Assortment: Good.**Flavors:** Good.**Gloss:** Good.**Stripes:** Good.

Remarks: This is a very fine assortment of hard candy, flavors and workmanship being exceptionally good.

Code 8V 31

Lolly Pop—¾ oz.—5c

(Purchased in a retail store in New York City.)

Appearance of Pop: Good. Protected by a transparent cellulose bag. This pop is made with a whistle in the center.

Flavor: Good.**Color:** Good.

Remarks: This is a very novel pop; makes an attractive 5c seller.

Code 8W 31

Jar of Hard Candy—1 lb.—(No price)

(Purchased in a drug store in New York City.)

Appearance of Jar: Fair. Hexagon shaped jar with plain gold screw cap. Red seal; name printed in white.

Condition of Candy: Partly broken and considerable dust.

Assortment: Waffles, small dainties, large dainties, molasses blossoms, pillows, straws and peppermint kisses.

Gloss: Partly gone.**Sizes of Pieces:** Good.**Colors:** Good.**Stripes:** Fair.**Flavors:** Good.

Remarks: Suggest a disc be used as candy was not in good condition.

Code 8X 31

Butter Scotch—1 lb.—(No price)

(Purchased in a drug store in New York City.)

Appearance of Package: Good.

Box: One layer; green, printed in green; wrapped in transparent cellulose. A neat looking box.

Appearance of Box on Opening: Good. This is a hard butterscotch cut in thin squares and wrapped in wax paper.

Flavor: Fair.**Color:** Good.**Texture:** Good.

Remarks: The flavor is not strong enough, suggest some C sugar be used, also more salt. It is too mild for a good eating butterscotch.



Raising the Unit of Sale by Clubbing three staple candy items

Code 8Y 31

Assorted Chocolates—1 lb.—(No price)

(Purchased in a drug store in New York City.)

Appearance of Box: Fair.

Box: Two layer; plain white bundle wrapped; no printing. Had cream colored outside wrapper printed in green and red.

Appearance of Box on Opening: Fair. Box contained assorted chocolates.

Chocolate Coating: Dark.**Color:** Good.**Gloss:** Most all pieces gray.**Strings:** Good; neatly done.**Taste:** Fair.**Centers—**

Maple Walnut: Fair.

Molasses Plantation: Fair.

Vanilla Caramel: Good.

Butterscotch: Good.

Peanut Cluster: Good.

Vanilla Nut Nougat: Good.

Peppermint Cream: Good.

Coffee Cream: Good.

Filbert Cluster: Good.

Candy Clinic

Vanilla Cocoanut Paste: Good.
 Apricot Jelly Walnut: Good.
 Ginger Jelly: Good.
 Vanilla Cream: Good.
 Chocolate Caramel: Good.
 Chocolate Fudge: Good.
 Raspberry Cream: Good.

Assortment: Good.

Remarks: This is a good eating box of chocolates and of good quality. The price is doubtful as this box was one of three that sold three for 98c—one box of butterscotch, one jar of hard candy and one box of chocolates.

Code 8Z 31

Caramel Sticks—2 ozs.—1c

Appearance of Sticks: Good. This is a caramel stick wrapped in light colored yellow wax paper, printed red on ends.

Texture: Tough.

Flavor: Fair.

Remarks: This is a good size piece for a penny seller.

Code 8Aa 31

Assorted Chews—2 pieces—1c

(Purchased in Lancaster, Pa.)

This chew is in the shape of a wrapped caramel, two pieces wrapped in transparent cellulose.

Colors: Good.

Texture: Good.

Flavors: Good.

Remarks: This should be a good 1c seller.

Code 8Bb 31

Sugar Mints—½ lb.—10c

(Purchased in a 5c and 10c store in Boston, Mass.)

Appearance of Package: Good. Transparent cellulose bag with store's seal. This piece is made up as a sugar mint, in the shape of hearts, clubs, spades and diamonds; flavored peppermint.

Shapes: Very good.

Flavor: Good.

Texture: Good.

Remarks: These mints are one of the best examined by the Clinic in some time. The shapes and the size are exceptionally good.

Code 8Cc 31

Mint Assortment—1 lb.—50c—
 (Also sold special at 40c)

(Purchased in Lancaster, Pa.)

Appearance of Package: Good.

Box: One layer. Wrapper of transparent cellulose.

Appearance of Box on Opening: Bad. Pieces all over box. Not a good looking assortment.

Contents—

White Panned Licorice: Good.

Green Mint Leaves: Good.

Green Opera Gums: Good.

White Cream Wafers: Dry and hard; off color; center piece large green cream leaf was hard and had turned partly white.

Remarks: This assortment is too small. The cream goods were not made right. Suggest a different and heavier partition be used, also that all goods be cupped, using same green cups and white goods. Suggest a liner be

used. To help this assortment suggest some green marshmallow jellies, a large gum piece and a few green strings be included.

Code 8Dd 31

Cocoanut Blossoms—½ lb.—10c

(Purchased in a 5c and 10c store in Boston, Mass.)

Appearance of Package: Good. Transparent cellulose bag with store's seal. These are peanut butter blossoms rolled in fine toasted cocoanut.

Center: Good.

Jacket: Good.

Cocoanut: Good.

Remarks: This is a good eating candy and is cheap at the price of 10c for half a pound.

Code 8Ee 31

Cocoanut Balls—2 ozs.—3 for 10c

(Purchased in Lancaster, Pa.)

Appearance of Package: Good; 8 cocoanut balls, wrapped in a blue printed transparent cellulose wrapper. Balls are made up of a cocoanut center and rolled in toasted cocoanut.

Texture: Good.

Flavor: Good.

Remarks: This is a good eating cocoanut ball.

Code 8Ff 31

Orange Slices—½ lb.—25c

(Purchased in a chain store in Hayward, Calif.)

Appearance of Package: Good. Wrapped in transparent cellulose. This piece is not made in the usual orange gore shape. It is made the same as an orange paste and then dipped in white icing.

Orange Paste—

Texture: Good.

Flavor: A trifle weak.

Coating: Good.

Remarks: The coating on this piece does not improve the eating. A plain sugared jelly eats better.

Code 8Gg 31

Apple Jelly—1 oz.—5c

(Purchased in a drug store in San Francisco, Calif.)

Appearance of Package: Good. Printed foil used for wrapper. This piece is made of an apple jelly with walnuts.

Color: Good.

Texture: Good.

Flavor: Good.

Remarks: A good eating bar, but small for a 5c seller. Suggest this bar be spread out to make it look larger.

Code 8Hh 31

Jelly Roll—7 pieces—5c

(Purchased at a cigar store in San Francisco, Calif.)

Appearance of Package: Good; 7 pieces of gums, daisy shape, wrapped in transparent cellulose.

Colors: Good.

Texture: Good; had a thin coat of grain.

Flavors: Good.

Remarks: These gums are good eating, except for a slight coat of grain. Gums might be cooked a trifle higher to avoid this.

Geyer With United Chemical & Drug Corporation

THE United Chemical & Drug Corporation has just announced that H. R. Geyer, formerly sales manager of Stanley Jordan & Co., Inc., has joined the sales force of their organization, taking effect August 1. He will be located at their New York offices, 135 William street.

A special department will shortly be inaugurated for the direct importation of Chinese egg products, consisting of whole egg, spray and granular egg yolk and egg albumen. This new department will be under Mr. Geyer's supervision. In anticipation of this move, the company has recently installed several of the most modern milling machines for the exclusive use of powdering egg albumen.

In addition to the egg products department, the company is already importing and manufacturing drugs, chemicals, essential oils, gums, etc.

Brandle & Smith Executives Return from European Trip.

OTTO HERTZ and E. W. Putt of Brandle & Smith Co., Philadelphia, together with V. O. Hermann of the V. O. Hermann Corporation, New York, have just returned on the S. S. "Britannic" from an extensive trip through Germany, France and England. The trip was made primarily for the purpose of finding more improved machinery for the making of the nationally advertised "Bristol Diced Mints." Considerable new machinery for the cooking and compressing of Diced Mints was purchased, as was also a complete wrapping machinery unit for making the entire process of manufacture more automatic. This was Mr. Hermann's second trip to Europe since the first of the year. He reports that he has brought back with him new and improved machinery for the continuous cooking of pure sugar work.

The trip was made entirely by airplane. Upon landing at Bremerhaven, Germany, the trio proceeded to Dresden in a special chartered airplane. From there they went to Berlin, Frankfurt am Main, Cologne, Duesseldorf, Paris and London. Two forced landings due to motor trouble added zest to the trip. One, occurring while flying high over mountainous territory, provided a thrill which none of the three will soon forget. Disaster was only averted through the extraordinarily skillful maneuvering of the pilot, who brought the ship to a safe landing in a small field after clearing mountains, treetops, and avoiding two gulleys by mere inches. As one of the party stated afterwards, instead of shaking their confidence in the airplane, the skillful way in which the pilot landed the plane with motor "dead" only strengthened their reliance in this mode of travel.

"What Is the Matter With the Candy Business"

Eric Lehman Voices an Opinion



So often in these days of meagre profits, we hear people ask over and over again, "What is the Candy Business Coming To?—What Is the Matter With it?" Well, my opinion is that there isn't anything the matter with the candy business—it is more a case of there being something the matter with the people who are in it. Can you imagine any sane manufacturer producing a good quality hard candy and selling it at a price which makes possible retailing the same candy at 10 cents per pound? I'll not ask how can he make a fair profit, but how can he make any profit on that candy? It just can't be done and if the manufacturer in question were frank about it he would probably admit that he actually lost money on the deal. The same thing can be said of jars containing 3 to 3½ ounces of hard candy and being sold to the consumer for 10 cents, too. True enough, we are experiencing a buyer's market, but that is no reason why we should continue to produce candy and sell it at a loss. Better stop producing; you will have more in the end than if you continue selling at a loss, eventually being forced to stop anyway.

Who started this price cutting anyway? Some will say, "Oh, a few of the small fellows were up against it and had to move their stock to get some cash or go out of the picture." The sequel to that story is that they probably did get "some" cash and then went out of the picture with it. These little fellows are not, however, the ones who do the real damage. In the first place, they are not big enough to hurt because, as a rule, they cover only a comparatively small amount of the trade and once they start to indulge in profitless selling, they don't last very long. The real culprits in this price-cutting epidemic are some of our largest and best established houses. They may not do

this under their own name, but then names are easy enough to get. In many cases all kinds of candies are being sold at a loss. A few of our good, old establishments are sitting tight and if not making money, at least they are doing a fair business and they are not giving their products away. When better times come, these are the houses that will be riding on top of the wave.

One hears of chocolate ice cream drops in pails being sold at 7½ cents a pound to the jobber, bar goods selling at 50 cents to 60 cents, hard candy at 8½ cents to 9 cents a pound and so on. We find hand-dipped chocolate of good quality being sold to the consumer at 39 cents per pound and still the cry goes up, "What is the matter with the candy business"? If our large manufacturers would only hold up their prices at a level which would show a fair profit, how long do you suppose the little fellow who is accredited with starting this price-cutting would last? Admitted, raw materials are cheap, but how about everything else, selling costs, overhead, etc., etc. These are from one to 300 per cent higher than they were some few years ago.

Little criticism can be made of the hard candies which this department examined for the current Clinic. With few exceptions they were even better than the hard candies examined for the candy Clinic for last August. It seems that more care is being taken in the manufacturing and better flavors are being used. Of course, as mentioned above, some are being sold at a loss and this fact is to be deplored. Hard candy is an excellent summer number and it is a better eating and more enjoyable confection than most candies during hot weather. A few good hard candy numbers will help make up for the seasonal losses on other goods during the torrid months.

Corn Syrup's Place in Candy

(Continued from Page 36)

as much as 40 per cent corn syrup.

Mr. Krno: I know of manufacturers who go as high as 50 per cent. The minimum amount for repressing crystallization effectively I would place at 25 per cent.

Question: Would you use the same percentage on open-fire kettles as on the vacuum?

Mr. Krno: The same percentage would repress the crystallization. In hard candy in open fire work you have the question of color coming up. Considering open fire work, I am going to be frank to say that corn syrup is more apt to go off color than cane sugar. Consequently, if you have a very high percentage of corn syrup in open fire work, you have got to contend with your color problem.

Question: Consider open fire production of hard candy, would you get the same effect in two factories?

Mr. Krno: It will all depend upon your gas pressure, the size of your batch, character of the water and a host of other factors. A rapid boil helps you, not only in keeping down inversion, but in lowering the amount of your color.

Question: Have you any figures on the effect of the temperature on color, that is, for instance, under storage conditions of corn syrup, maximum or minimum temperatures?

Mr. Krno: Color for one thing, as I stated towards the end of this talk, is linked up very closely with pH and it also depends upon certain impurities in corn syrup which at times it is beyond us to control. Minute amounts of amino acids act as very powerful color producing catalysts.

I have known batches of syrup which after three months will triple in color. That is a good domestic syrup.

Question: Is corn syrup used to any extent in fondants for the purpose of holding back crystallization in the beating process and to get a smoother fondant?

Mr. Krno: Of course, they use it for holding back the crystallization. It not only modifies the crystal, it prevents it from coming out of solution. When it does come out, it comes out a much smaller crystal. The size of the crystal is smaller

THE MANUFACTURING CONFECTIONER

whether corn syrup or invert sugar is used.

Question: If it is within the scope of the lecture, can refined dextrose be used instead of corn syrup at any time with the same or better results?

Mr. Krno: Dextrose is an entity. It is a sugar and, of course, it is an ingredient of corn syrup, but corn syrup is a mixture of substances, so I think it is incorrect in general, to say that dextrose should be used where corn syrup is used. I think you will come to grief when you try that. If you depend upon corn syrup as a control over crystallization, it is much more powerful in that respect than pure dextrose. You can't duplicate the same effect.

That has been the trouble with a good many confectioners in experimenting with dextrose. They went with that preconceived notion of either working with it the same as they had worked with cane sugar, or use it instead of corn syrup. I will tell you an instance in fondant making where that came up. When dextrose first came out, people attempted to use dextrose, corn sugar, in making fondant and naturally, they said, "I will go easy with this—a 50-50 proportion of cane sugar and dextrose will be fine" and they cooked it up to 242° F. and put that in a beater. They were beating that all day and it wouldn't crystallize. It did eventually and then got as hard as cement. That illustrates how one sugar prevents the other from crystallizing. It so happens, that when they chose the proportion of 50-50 accidentally, it was the point at which total solubility of the two sugars when together was at a maximum. If they used one or the other in excess, they would have gotten crystallization more quickly.

Question: You said something before about ageing?

Mr. Krno: Our laboratories have been very busy on that problem. Of course, we haven't gotten absolute control and no one has over those impurities, but I think it is a step in advance when we begin to realize what is really troubling us. That helps a bit anyway. As I stated before amino acids are a factor. The only way to affect that is through purifying the starch from which the syrup is made. Yet it is impossible to produce chemically pure starch commercially which of course would be the ideal raw product. Boneblack may yield amino com-

pounds especially if the char is new. This has to be watched carefully and the boneblack treated so that a minimum amount of ammonia compounds is transmitted by it to the syrup.

Research Council to Conduct Tour

MR. MAURICE HOLLAND, director of the Division of Engineering and Industrial Research of the National Research Council, has announced that among the items to be observed by the group of 100 business men and bankers who will make a tour of laboratories this fall under his sponsorship will be that of scientific research as an aid to the candy manufacturer.

Of the 14 outstanding research organizations in the various sections of the country which will be visited, one of them will be the New England Confectionery Company in Cambridge, Massachusetts, where researches on sugar, chocolate and flavors are carried on.

In making his announcement, Mr. Holland stated that a number of executives in the candy industry will be invited to make the trip. "This will not only afford them an opportunity of knowing what is going on in the research field in their own industry," said Mr. Holland, "but it will enable them to study the methods of operation and compare the different types of successful research laboratories. The trip will show them that many of the nation's industries, both small and large, are applying industrial research to industrial and financial problems in a period of business readjustments."

The inclusion of research in confectionery fields as part of the tour program is in line with suggestions contained in an address delivered at the recent annual meeting of the National Confectioners' Association in Chicago by Mr. William Spraragen, secretary of the Division of Engineering and Industrial Research of the National Research Council. Mr. Spraragen has

been active in working out details of the tour.

In his address, which was entitled "Teamwork in Research," Mr. Spraragen emphasized the importance of research as part of the activities of the National Confectioners' Association. He explained the types of problems that could best be handled by the association and those that could be advantageously left to individual companies.

The itinerary of the tour of laboratories as announced by Prof. Dugald C. Jackson, chairman of the division, is as follows:

On Monday evening, October 5th, the party will leave for Boston on one of the boats of the Eastern Steamship Lines. The remainder of the trip will be made by special train.

On Tuesday, October 6th, Massachusetts Institute of Technology, the laboratories of Arthur D. Little, Inc., Dewey & Almy Chemical Co., and New England Confectionery Company, all in Cambridge; the laboratories of the United Drug Company and Thompson & Lichtner Company, Inc., both in Boston. The tour activities in and around Boston will be in charge of the New England Council, an organization which promotes interest in New England industries. Members of the party will be given a choice of visits to the laboratories just named.

On Wednesday, October 7th, Eastman Kodak Company, Rochester, N. Y.; Thursday, October 8th, Ford Motor Company, Detroit, Mich.; Friday, October 9th, Nela Park Laboratories, Cleveland, Ohio; Saturday, October 10th, Goodyear Tire & Rubber Company and Zeppelin plant laboratories, Akron, Ohio.

Monday, October 12th, Tanners' Council of America and the Basic Science Research Laboratory, identified with the General Foods Corp., both at the University of Cincinnati, Ohio; Tuesday, October 13th, Battelle Memorial Institute, Columbus; Wednesday, October 14th, Westinghouse Electric & Manufacturing Company, Pittsburgh; and October 15th, return to New York City.

U. S. Imports of Confectionery

THE table below is a preliminary report of confectionery imports into the United States for the first half of 1931 (January to June inclusive) compared with the corresponding period of 1930 as given out by the Department of Commerce:

Country	1930		1931	
	Pounds	Value	Pounds	Value
Soviet Russia	246,496	\$ 22,755	1,757,404	\$162,776
Germany	225,513	52,852	238,321	70,411
United Kingdom ..	325,954	65,652	213,375	47,343
Czechoslovakia ..	176,363	26,144	153,621	28,282
Belgium	11,276	2,168	115,504	10,695
Austria	95,980	21,214	92,988	19,800
Netherlands	86,957	36,155	85,560	28,107
Latvia	41,056	8,765	64,307	17,773
Mexico	89,129	5,512	58,771	3,378
Hongkong	40,454	2,039	53,518	2,153
Other Countries ...	242,789	50,290	165,414	31,526
Total	1,581,967	\$293,546	2,998,783	\$422,244

RECLAIMING PROFITS from Scrap



[Many a crime has been committed against the consumer through the re-use of "scrap" materials. Admitted. Yet there are some unsalable goods which can be transformed into profitable merchandise by the experienced candy maker, just as the frugal housewife and the skillful chef can create tempting dishes from the "leftovers" of the day before. The purpose of this department is not to encourage a cheapening of quality but to show the candy maker how profits can be legitimately reclaimed from some of this otherwise waste material.]

TO the Editor of THE MANUFACTURING CONFECTIONER:

In going through the June issue of your publication, I came across the department "Reclaiming Profits from Scrap," in which you printed a letter suggesting the word "Trim-mings" be substituted in place of Scrap. Take, for example, candy that has been returned unfit for sale. I don't see how this could be classified as "Trimmings" because at one time it was apparently good candy, but upon being returned unsaleable, it would naturally come under the old candy term or classification for waste, namely, "Scrap." I do not think any other word would adequately describe this kind of goods and as a matter of fact I can't see anything so terrible about this word "Scrap," anyway. If the name were changed to Trimmings, it would not take in all the "comebacks" and would not even cover the factory wastes for that matter. Suppose a bum batch were made? Would you call that Trimmings? I guess not!

But speaking of Scrap, this is an experience I had: I was employed by a certain manufacturer in the Middle West and we were making chocolate coated molasses chips as a special leader for the jobber trade. We received an order for 30 pails of 27 pounds each and 38 5-pound boxes. Now it so happened that the shipping clerk misjudged the weather and these goods got into some zero weather, with the result that when they arrived at their destination, and were sorted out, they were all cracked and split, entirely unfit for sale. Well, we got them all back

and the boss said, "Danny, what are we going to do with this bunch of junk?"—and you will notice he did not even say Scrap, and he knew a whole lot better than to call it Trimmings!

After having the clerk bring it all up into the shop so I wouldn't forget it, I went to the chief and asked him if he would buy me some nice assorted marbles. He said he would and here is what I did with them: Now, in order to work up Scrap easily, one should know what is in it. These chips were made as follows:

- 21 lbs. sugar
- 9 lbs. corn syrup
- 2 lbs. inexpensive butter
- 1 quart molasses

They were coated very thin on the enrobers.

I took 86 pounds of this Scrap and 25 pounds of sugar and added enough water to dissolve it well. Then cooked it to a soft boil and poured it on the beater, making a fondant of it. I cooked another 100 pounds of this Scrap to a soft boil as a bob and then added the fondant I had made previously. While I had this last batch in work, I had the starch boy print a number of boards of one-half ounce drops and had the girls drop a marble into each impression; then we ran the cream in on top of the marble and left them to set over night. The next day we ran them through the en-rober with a lot of other goods and coated them thin. We put 72 in each box and sold them for 50 cents per box. Thus in about a month's time we got rid of our Scrap.

Scrap is not hard to work up if you know exactly what is in it, but I have seen whole batches thrown into a barrel together and all mixed up so that you could no more tell what was in it than fly. In order to work this kind of stuff, you have to be very careful or you will just make more Scrap. If the candy maker uses his head a little, he can make many good sellers out of almost any kind of Scrap, some of which may look almost impossible.

When speaking of inexpensive candies, I don't believe in calling this candy "cheap" just because Scrap has been used. Remember that this goods had to be cooked before and this fact alone tends to make it more costly because it takes longer to dissolve. And another thing, even though Scrap be used, if good raw materials were originally used the resulting candy cannot be considered cheap. Don't forget, no matter how inexpensive your raw materials are, as long as your goods are pure food, you still have quality. Usually when the consumer gets a piece of candy that doesn't taste right, he blames it on the candy and says that it is cheap, but that is not always true. The fact is, it was probably just poorly made, as many candies are.

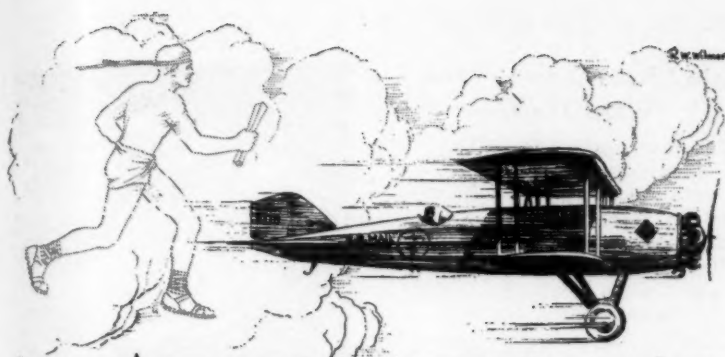
I believe, for the time being, I have said more than enough or you may think this is Scrap, too; but the subject is a good one; let's have more.

Yours for good candy,
D. BOONE SWARTZ.

Acknowledgment

We are very glad to acknowledge with thanks Mr. Swartz's very interesting letter for which he is awarded \$5.00. We are just wondering if the purchasers of those candies were told in any way that each piece contained a marble which, of course, is not the healthiest thing to try to bite into. If no such warning appeared on either the wrapper or carton, we are rather afraid some of the purchasers found their teeth in need of repairs after the first bite.

(How have you disposed of your returned goods and other scrap materials? Five dollars will be paid for each practical idea on the utilization of plant waste acceptable for publication in THE MANUFACTURING CONFECTIONER. Complete working instructions should accompany your suggestions. Send all ideas to the New York Office of THE MANUFACTURING CONFECTIONER, 303 West 42nd Street.)



AS WE SORT THE MAIL

Questions addressed to this department will be answered by us from month to month. Readers are invited to make this a forum for informal discussion of subjects of general interest to the candy industry.—The Editor.

Appreciation

WE have to acknowledge and thank you for your letter of May 5th enclosing photostat copies of a number of formulas which we very much appreciate.

We have also to thank you for the names of the various manufacturers of freezing machinery. Should we communicate with any of these people we will most certainly mention your name.

M. S., New Zealand.

Re: Ice-Cream Cone Making Machines

WE are in the market for several ice-cream cone making machines, and as we have no means to find out the names of the makers of such machines, we shall be glad if you will kindly send our inquiry to them and request them to send us their catalogs and export prices.

We do not want the large automatic machine, but only small hand-work machines, say making 6 to 12 cones at one time. We will use gas as fuel.

We also would like to know the best formula for preparing these cones.

Thanking you in advance for your valuable assistance on this matter.—L. K. H., Hong Kong.

Above requests gladly complied with.

Cooperation Appreciated.

THANK you for your checkup on our fudge bar in the July issue. As the different numbers are checked up and criticized, we endeavor to correct the features that can be improved upon.

We appreciate this good cooperation of yours.—E. F. K., Boston, Mass.

Cooperation

TO The Manufacturing Confectioner: We were very much interested in the suggestion incorporated in your letter of recent date as to the use of refrigerators in keeping candy during the hot weather.

I am enclosing a copy of the "150th Refrigeration Talk," released on July 15th, in which we have used this idea.

We are always glad to cooperate with you whenever possible, and I hope that you will feel free to call on us whenever we may be of assistance to you.

(Signed) MARION F. SAWYER,
Kelvinator Home Economics Dept.

... and How!

KEEP CANDY FRESH IN YOUR ELECTRIC REFRIGERATOR

By Marion F. Sawyer

Kelvinator Home Economics Dept.

EVERYONE likes candy, particularly chocolate candy. It is a good food when made of wholesome materials and adds a decided zest to our menus and our between-meal tea parties. And then, of course, it is splendid as a "bracer," if for any reason meals are delayed. Being a concentrated food it is often found in the pack of the huntsman. Yes, everyone likes candy, and many are its real uses.

But because, in the hot summer weather, it is apt to get soft and melt, or to get sticky, many of us forego candy during the summer months. Here is a suggestion for those who like candy but who hesitate to purchase it during the warm weather.

Cream-center chocolates and chocolate bars may be stored safely in your electric refrigerator. Place them in a covered container on one of the shelves in the food storage compart-

ment, and you may keep them for weeks, delicious and fresh. Or if you want something quite new and different, place the chocolate creams for a short time in one of the freezing trays. This not only makes the chocolate crispy and improves its taste, but gives the centers an ice-cream character which is delicious.

There are all kinds of new and different uses for your electric refrigerator. If you do not think you are making the fullest use of yours, ask local Kelvinator dealer for the new recipe book, which contains many suggestions for all kinds of delicious dishes.

Danish Production and Consumption of Chocolate and Confectionery

ACCORDING to official statistics, the output of 838 establishments producing cocoa, chocolate and confectionery in Denmark, amounted to 41,375,000 pounds in 1930, compared with 38,805,000 pounds in 1929. Production of eating chocolate and licorice decreased, while that of chocolate coating bon-bons and non-chocolate candy, and marzipan, increased. Consumption of chocolate and confectionery, including imports, totaled 43,096,000 pounds in 1930, as against 40,790,000 in 1929.

John Dold Demonstrating Vac-Milk

John H. Dold, formerly president and general manager of the Meadowbrook Candy Company, Moline, Ill., successors to the A. G. Abraham Company, is now with the Senneff-Herr Company of Sterling, Ill., in the capacity of general staff representative.

Mr. Dold was superintendent of the A. G. Abraham Company for twenty years, and when this firm was reorganized, Mr. Dold was elected president and general manager of the new company, which has since been known as the Meadowbrook Candy Company.

The Senneff-Herr Company has just recently developed two new fresh cream and milk products known as Vac-Cream and Vac-Milk.

C. W. Senneff, president of the Senneff-Herr Company, and Mr. Dold are devoting their efforts to introducing these two new milk products and demonstrating their application to the manufacture of confections.

Apollo Chocolates Company Adopts Group Insurance

Executives of the Apollo Chocolates Company at 128 Cross Street, Boston, Mass., have recently announced the adoption of a group life insurance policy for the protection of 58 employees. This policy was acquired through the Prudential Insurance Company of America and the total involved is \$75,000.

The workers are to receive insurance in amounts ranging from \$1,000 to \$2,500, according to the rank or position held, and the policy is of the contributory type, the employees paying a part of the premium and the employing company assuming the remainder of the expense.

Walter Belcher to Direct Sales of Kibbe's

Announcement has been made by Kibbe Bros. Company of Springfield, Mass., that Walter H. Belcher of West Medford had been appointed general sales manager of the company. Mr. Belcher was with the Walter M. Lowney Company in important executive capacities for many years and on the forming of Candy Brands, Inc., which merged the Lowney organization with three other companies, he continued as manager of the Lowney Division, resigning a few days ago to join Kibbe Brothers.

In making the announcement L. L. Homer, secretary to the president, said that the appointment marks the latest step in improving and expanding the local organization as a strong independent factor in the candy trade. Early last year, Sam Ray, well known in candy production circles was made general superintendent. Since then various measures have been adopted to improve the plant production, the packaging and boxing system has been modernized and new confectionery lines developed.

Kibbe Bros. Company has more than held its own in the matter of production and sales this year, it is said, the South and Central West being mentioned as fields where considerable gains have been forthcoming. The latest step looks to the strengthening of the company's sales facilities all along the line.

Mr. Belcher, the new sales executive, is a former president of the National Confectioners' Association and was the first president of the New England Manufacturing Confectioners' Association when it was formed in 1917, holding that office three years. — From Springfield (Mass.) Union.

AUGUST 20

CHICAGO CANDY DAY

Production Men Golf Salesmen and Jobbers' Picnic

The second annual golf tournament of the Candy Production Club of Chicago will be held on Thursday, August 20, at Nordic Country Club, Itasca, Ill. Motorists can drive straight out Lake street to three miles west of Addison. Nordic Country Club is adjacent to Medinah Country Club.

A hearty invitation to attend this tournament is extended to anyone connected with the candy or associated industries. Those not wishing to play golf will find plenty of opportunities to enjoy themselves otherwise.

Reservations can be made by writing or phoning Mr. Robert Framberg of Master Paper Box Co., 1500 West 15th street. Phone Canal 1512.

The Chicago Candy Club is sponsoring another big roundup of Chicago candy folks on the same day, especially sales executives, salesmen, jobbers and everyone primarily interested in candy distribution. Meet at Ehrhardt's Grove, Park Ridge, Ill. Ball games, dancing and program of sports will be the features of the day.

Chain Store Laws Valid—What Then?

NO more interesting subject for discussion has even been presented to the merchants of America than the recent decision of the United States Supreme Court upholding the validity of the graduated chain store license tax recently enacted by the State of Indiana.

Those who are violently opposed to everything represented by chain store development declare that this decision has sounded the death knell for chain stores and has re-established a basis for hope that this Republic shall be ultimately saved for the small operator.

On the other hand, chain store partisans believe that the sharp division of opinion among the members of the Supreme Court presages an early and reassuring modification of the Indiana decision. In the midst



Slay the Goose that Laid the Golden Egg?

of these claims and counter-claims, a large section of the general public is watching with aroused interest for something to indicate what effect this decision will have, if any, upon retail prices and the consumer's cost of living. . . . *Chain Store Progress*, Issue of July, 1931.

"Certified"

(Continued from page 31)

should, as far as is possible, include only those dyes that are in active use in the coloring of foods. After the manufacturer who wishes to place a new color on the list has satisfied the Food and Drug Administration of the advisability of such a procedure, he is required to submit a large sample of the new dye for a careful chemical examination of the material. At the same time he is expected to submit the results of a series of very complete physiological tests made by some reputable pharmacologist, showing by actual experimentation that the dye is harmless. If these pharmacological tests are confirmed in the Food and Drug Administration itself, the dye is accepted for the permitted list. A notice is then sent to all manufacturers two months prior to the first date of certification, stating that this dye will be placed on the list at the time specified. Inasmuch as no dye on the permitted list can be protected in any way by patents, the manufacture of the new dye is open to all.

The growth of the certified color industry is an earnest of its success. During the year ending June 30, 1931, 290,715 pounds of straight dye, 25,329 pounds of repacked straight dyes and 337,813.96 pounds of mixtures were certified. These colors are used in factory and home

for the production of candies, soft drinks, cakes, sausage casings, and a variety of similar products.

It has already been stated that there is no objection to added color in food products, provided that there is no deception. If, for one reason or another, a highly colored confectionery is desired by the public, it may be artificially tinted for that purpose, for no one can imagine that the resulting shade is a natural one. In using colors, however, manufacturers should remember that all dyes are not equally harmless, that untested colors, even of the harmless variety, may contain dangerous impurities, and that the only way to assure themselves of safety is to use material from an unimpeachable source. The Food and Drug Administration of the Department of Agriculture, has afforded the consumer such a source by the establishment of a system of certification for pure food colors, and the presence of the word "certified" when used in connection with the artificial coloring of candy, is the Government's guarantee of purity and safety to the consumer.

Excellent Sugar Crop Prospects

Prospects for the 1931-32 sugar crop in Porto Rico are declared to be excellent. Sugar shipments for the third week in June were 31,294,600 pounds of raw sugar, valued at \$1,924,198, and 4,030,000 pounds of refined sugar, valued at \$176,000.

—Bureau of Commerce Report.

PATENTS

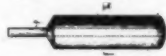
of Interest to Confectionery Industry

1,747,116. CANDY CONFECTION AND METHOD OF PRODUCING THE SAME. Lee G. James, Harry E. James, and Enoch R. JAMES, Atlantic City, N. J., assignors to James, Inc., Atlantic City, N. J., a Corporation of New Jersey. Filed Dec. 2, 1929. Serial No. 411,086. 36 Claims. (Cl. 107-54.)



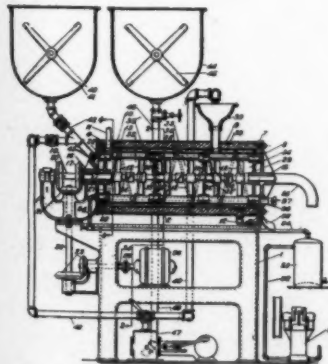
27. The improved method of manufacturing coated confections which comprises producing a batch of the salt water taffy type, forming from said batch individual center pieces, processing the pieces to provide centers which will not shrink after a coating has been applied, and thereafter forming thereon and sustaining thereby an edible candy-like coating of a character liable to break down upon changes in the dimensions of the center.

1,764,282. Frozen Confectionery. Milton Schnaier, New York, N. Y. Filed December 23, 1927. Serial No. 242,110, and in Sweden August 5, 1927. 4 Claims. (Cl. 107-54.)



1. The method of preparing a frozen confection, which consists in water-logging a handle and core stick, depositing the same in a mold, charging the mold with a syrup, congealing the contents under intense refrigeration, and then removing from the mold the frozen product, thereby bonded to the core length of the stick.

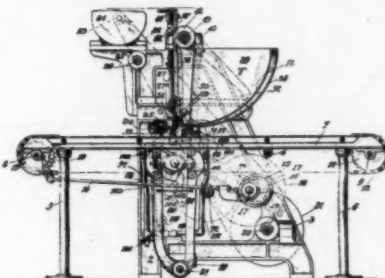
1,765,708. Loom. William S. Wells, Los Angeles, Calif., assignor, by mesne assignments, to Wonder Weave, Inc., Boston, Mass., a Corporation of Massachusetts. Filed October 3, 1928. Serial No. 310,162. 12 Claims. (Cl. 139-124.)



1. A freezer containing a plurality of communicating chambers and means mov-

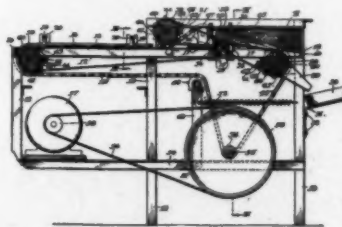
able about an axis for agitating the contents of the respective chambers said chambers communicating adjacent to the axis of said means.

1,765,873. Candy Machinery. William Bartlett Laskey, Brooklyn, N. Y., assignor to Mason, Au & Magenheimer Confectionery Manufacturing Company, Brooklyn, N. Y., a Corporation of West Virginia. Filed July 20, 1926. Serial No. 123,624. 30 Claims. (Cl. 107-4.)



1. In a machine of the class described, the combination with a plastic mass containing tank having a vertically extending plane wall at one end and an arcuate wall at the other end extending from the upper edge of the tank down to the lower end of said plane wall, there being a discharge opening in said tank adjacent to said plane wall, of a fixed die disposed adjacent to said plane wall and in line with one side of said discharge opening for defining one side of the confection unit to be formed, a movable die adapted to move into engagement with said fixed die and into alignment with the other side of said discharge opening to define the other side of the confection unit to be formed, a closure for the discharge opening temporarily to support the confection unit being formed, a discharging head for engaging the confection unit disposed between said dies and discharging said unit through said discharge opening, and means for causing said closure to open when said discharge member functions to discharge a unit.

1,765,990. Candy-Slab Divider. Herbert J. Melville and Harold E. Atchison, Chicago, Ill., assignors to The Curtiss Candy Company, Chicago, Ill., a Corporation of Illinois. Filed March 31, 1927. Serial No. 179,839. 8 Claims. (Cl. 107-7.)



8. In a device of the character described, a belt, another belt confronting said first named belt in spaced relation thereto to hold articles therebetween, another belt disposed in the path of an article held between the first two referred to belts to grip a portion of such article to change the directional movement thereof to effect a division of said article into sections, said last named belt being effective to discharge said segments at a predetermined position.

American Management Association Announces Packaging, Packing and Shipping Exposition at Palmer House, Chicago, March 7-12, 1932

Following the first American Packaging Exposition, Conference and Clinic held at the Hotel Pennsylvania, New York City, last May under the auspices of the American Management Association and attended by more than 2,000 packaging buyers, experts and specialists, a broadened and much larger Packaging, Packing and Shipping Conference, Clinic and Exposition will open in the Palmer House, Chicago, for a six-day session beginning March 7, 1932, and ending March 12.

The exposition, now to relate to the entire field of packing and shipping, as well as to commodity packaging, will be concurrent with a succession of daily conferences, dealing on the different days with consumer marketing, packing, shipping and packaging. Preliminary exposition arrangements have already been completed and there are advance indications of widespread interest, Mr. Wolf announced. Companies that are members of the American Management Association are already making extensive booth reservations and will have priority in this privilege until August 15.

Charles W. Nordland Now in Charge of Eastern Division of Corn Syrup Division of Anheuser-Busch, Inc.

Anheuser-Busch, Inc., announce the appointment of Mr. Charles W. Nordland as Corn Products representative for our Eastern Division. He will have his headquarters at 1507 North 33rd Street, Philadelphia.

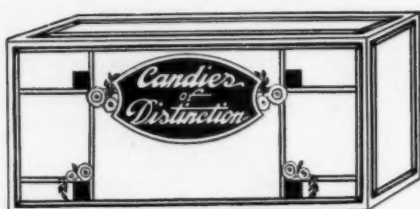
They are opening headquarters at Philadelphia to establish closer contact with the users of Corn Syrup and thus give more convenient service.

Mr. Nordland has been closely associated with the confectionery industry for many years. He has a background of experience both from the standpoint of production and merchandising.

Jos. G. Dubin & Sons Move Into New Factory

Jos. G. Dubin & Sons, Inc., Brooklyn, have purchased a factory building located at 649-659 Morgan Avenue, in that city. The building is a modern daylight factory, four stories high, containing about 45,000 square feet of floor space, which they will occupy entirely. They have installed new machinery in their new plant and will be ready for fall production.

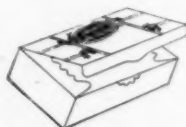
New Two Color Candy Boxes



for Year-'Round Use

To capture more business on competitive grades of candy, leading merchants have been hunting for better-looking boxes. However, they recognize that cost must be kept very low. To meet this need of modern merchandising we have brought out a new line of attractive "All Season" boxes.

In construction, the new boxes are of the familiar folding style illustrated at the right. This style has always proved most practical and economical.



In design, the new boxes show certain striking improvements. For instance, they are printed in TWO colors, with the stylish duo-tone effect. A choice of colors is offered to suit differing tastes.

A set of free samples, showing the complete range of colors, sizes and materials, is waiting for you. Just fill in and mail the coupon below.



Probably you have already received a Portfolio showing our 1931 line of Christmas Boxes. If not, the coupon below will bring you a copy.

COOPER PAPER BOX CORP.

Sycamore & Mortimer Sts.

BUFFALO, N. Y.

Please send:

(Check which)

() samples and prices of "All Season" Boxes

() Portfolio of "Christmas Boxes"

Company

Address

City

Attention of



3 Central West Manufacturers select the "LUSTR-KOOLD" Chocolate Cooling Conveyors

for their chocolate department

- 1 —National Candy Co.,
Chicago—(Veribrite Factory)
- 2 —National Candy Co.,
Kansas City—(Fletcher Factory)
- 3 —A Leading Manufacturing
Confectioner in Northwest—
(Name not released for publication)

Because:—

The "Lustr-Koold" conveyor *does* what is required in the production of chocolate work:

- (a) *Gives fine appearance:* that's where the "Lustr-Koold" got its name.
- (b) *Greater volume in less floor space.* Let us tell you more about it.

(We carry in stock wire belts for all sizes and makes of coating machines for immediate shipment. We can also furnish the finest grades of cooling conveyor belting).

Economy Equipment Co., Inc.

Chocolate Cooling and Air Conditioning
Specialists

2745 High St.

CHICAGO

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